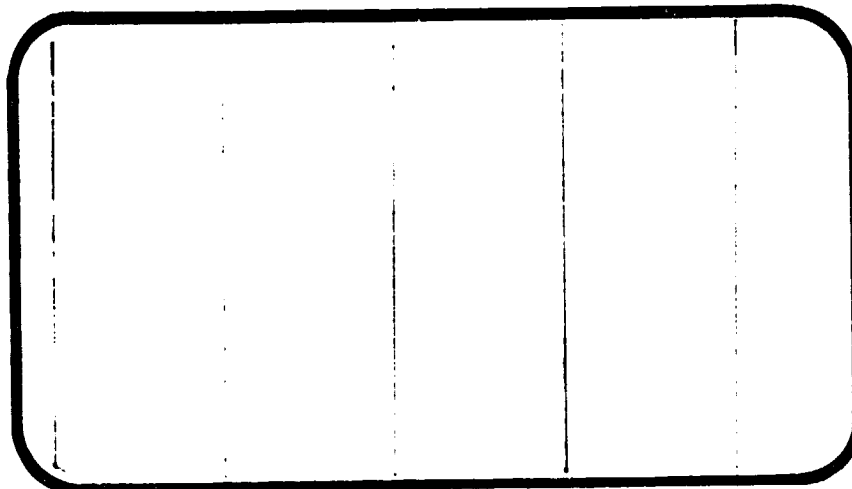


NASA

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

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(NASA-CR-134443) AIRLOADS INVESTIGATION OF
AN 0.030-SCALE MODEL OF THE SPACE SHUTTLE
VEHICLE 140A/B LAUNCH CONFIGURATION (MODEL
47-OTS) IN THE ARC 11-FOOT UNITARY PLAN WIND
TUNNEL FOR MACH RANGE 0.6 TO 1.4 (IA14A),

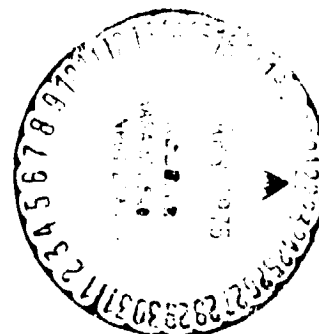
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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT



JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANAGEMENT services

SPACE DIVISION



**CHRYSLER
CORPORATION**

February, 1975

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VOLUME 1 OF 11

AIRLOADS INVESTIGATION OF AN 0.030-SCALE MODEL
OF THE SPACE SHUTTLE VEHICLE
140A/B LAUNCH CONFIGURATION (MODEL 47-OTS)
IN THE ARC 11-FOOT UNITARY
PLAN WIND TUNNEL FOR MACH RANGE 0.6 TO 1.4 (IA14A)

by

R. L. Gillins
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Prepared under NASA Contract Number NAS9-13247

by

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Chrysler Corporation Space Division

for

Engineering Analysis Division

Johnson Space Center
National Aeronautics and Space Administration
Houston, Texas

WIND TUNNEL SPECIFICS:

Test Number: ARC 11-716
NASA Series No.: IA14A
Model Number: 47-OTS
Test Dates: 4 through 13 September 1973

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AIRLOADS INVESTIGATION OF AN 0.030-SCALE MODEL
OF THE SPACE SHUTTLE VEHICLE
140A/B LAUNCH CONFIGURATION (MODEL 47-OTS)
IN THE ARC 11-FOOT UNITARY
PLAN WIND TUNNEL FOR MACH RANGE 0.6 to 1.4 (IA14A)
VOLUME 1

By. R. L. Gillins, Rockwell International Space Division

ABSTRACT

This report presents results of tests conducted on an 0.030-scale launch configuration model of the Space Shuttle Vehicle 140A/B in the NASA/ARC 11-Foot Unitary Plan Wind Tunnel. Aerodynamic loads data were obtained at Mach numbers from 0.6 to 1.4.

Surface pressure distributions were obtained simultaneously with six-component stability and control force data on the complete launch configuration. The configuration consisted of the orbiter, an external tank, two solid rocket boosters, and associated intercomponent attach hardware. Angles of attack and sideslip from -10 degrees to +10 degrees were investigated. The tests, designated IA14A, were conducted from 4 September 1973 through 13 September 1973.

TABLE OF CONTENTS

	Page
ABSTRACT	iii
INDEX OF MODEL FIGURES	3
INDEX OF DATA FIGURES	4
INTRODUCTION	11
NOMENCLATURE	13
CONFIGURATIONS INVESTIGATED	18
INSTRUMENTATION DESCRIPTION	20
TEST FACILITY DESCRIPTION	21
DATA REDUCTION	22
REFERENCES	25
TABLES	
I. TEST CONDITIONS	28
II. DATA SET/RUN NUMBER COLLATION SUMMARY	30
III. MODEL DIMENSIONAL DATA	33
IV. ORBITER FUSELAGE PRESSURE ORIFICE LOCATIONS	47
V. ORBITER WING PRESSURE ORIFICE LOCATIONS	48
VI. ORBITER VERTICAL TAIL PRESSURE ORIFICE LOCATIONS	49
VII. ORBITER BASE, BODYFLAP, AND OMS NOZZLE PRESSURE ORIFICE LOCATIONS	50
VIII. EXTERNAL TANK PRESSURE ORIFICE LOCATIONS	51
IX. SRM PRESSURE ORIFICE LOCATIONS	52
X. ORBITER ATTACH POINT PRESSURE ORIFICE LOCATIONS	53
XI. EXTERNAL TANK ATTACH POINT PRESSURE ORIFICE LOCATIONS	54

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TABLE OF CONTENTS (Concluded)

	Page
FIGURES	
MODEL	57
DATA	76
APPENDIX	
TABULATED SOURCE DATA	

INDEX OF MODEL FIGURES

Figure	Title	Page
1.	Axis systems.	
a.	Stability and body axis systems	57
b.	Orifice location nomenclature diagram	58
2.	Model sketches.	
a.	Integrated Vehicle - 2 Balances, no attach structure	59
b.	Integrated Vehicle - 1 Balance with attach structure	60
c.	Integrated Vehicle - 2 Balances with attach structure	61
d.	Installation side views	62
e.	Attach hardware	63
f.	External tank protuberances	64
g.	SSV orbiter configuration 140A/B	65
h.	Orbiter nomenclature	66
i.	Canopy, C_9 , and body, B_{26} , lines drawing VL70-00193 and VL70-000140A/B	67
j.	M_7 - OMS pod	68
k.	Body flap, F_8 , lines drawing no. VL70-000140A/B	69
l.	Wing, W_{116} , lines drawing no. VL70-000200	70
m.	Elevon, E_{26} , lines drawing no. VL70-000200, VL70-000140A/B	71
n.	Vertical tail, V_8 , and rudder, R_5 , lines drawing no. VL70-000146A	72
o.	Rudder, R_5 , lines drawing no. VL70-000095	73
3.	Model photographs.	
a.	Front view of model installed in tunnel	74
b.	Rear view of model installed in tunnel	75

INDEX OF DATA FIGURES

FIGURE	TITLE	CONDITIONS VARYING	PLOTTED COEFFICIENTS SCHEDULE		PAGES
1	LVAP (01 T12 S12 N25 AT11), BETA = 0 (TANK & SRM BALANCE)	MACH	A		1-7
2	LVAP (01 T12 S12 N25 AT11), ALPHA = 0 (TANK & SRM BALANCE)	MACH	B		8-14
3	LVA (01 T12 S12 N25 AT10), ALPHA = 0 (COMPOSITE BALANCE)		B		15-21
4	LVAP (01 T12 S12 N25 AT11), ALPHA = 0 (TANK & SRM BALANCE)		C		22-28
5	LVA (01 T12 S12 N25 AT10), MACH = .9 (COMPOSITE BALANCE)	BETA	A		29-42
6	LVA (01 T12 S12 N25 AT10), MACH = 1.1 (COMPOSITE BALANCE)	BETA	A		43-56
7	LVA (01 T12 S12 N25 AT10), MACH = 1.25 (COMPOSITE BALANCE)	BETA	A		57-70

INDEX OF DATA FIGURES (Contd.)

FIGURE	TITLE	CONDITIONS VARYING	PLOTTED COEFFICIENTS SCHEDULE	PAGES
8	LVAP (01 T12 S12 N25 AT11), MACH = .6 (TANK & SRM BALANCE)	BETA	A	71-77
9	LVAP (01 T12 S12 N25 AT11), MACH = .75 (TANK & SRM BALANCE)	BETA	A	78-84
10	LVAP (01 T12 S12 N25 AT11), MACH = .85 (TANK & SRM BALANCE)	BETA	A	85-91
11	LVAP (01 T12 S12 N25 AT11), MACH = .95 (TANK & SRM BALANCE)	BETA	A	92-98
12	LVAP (01 T12 S12 N25 AT11), MACH = 1.05 (TANK & SRM BALANCE)	BETA	A	99-105
13	LVAP (01 T12 S12 N25 AT11), MACH = 1.15 (TANK & SRM BALANCE)	BETA	A	106-112
14	LVAP (01 T12 S12 N25 AT11), MACH = 1.4 (TANK & SRM BALANCE)	BETA	A	113-119
15	LV (01 T12 S12 N25), MACH = .6 (TANK & SRM BALANCE)	BETA	A	120-126

INDEX OF DATA FIGURES (Contd.)

FIGURE	TITLE	CONDITIONS VARYING	PLOTTED COEFFICIENTS SCHEDULE	PAGES
16	LV (01 T12 S12 N25), MACH = .75 (TANK & SRM BALANCE)	BETA	A	127-133
17	LV (01 T12 S12 N25), MACH = .85 (TANK & SRM BALANCE)	BETA	A	134-140
18	LV (01 T12 S12 N25), MACH = .90 (TANK & SRM BALANCE)	BETA	A	141-147
19	LV (01 T12 S12 N25), MACH = .95 (TANK & SRM BALANCE)	BETA	A	148-154
20	LV (01 T12 S12 N25), MACH = .975 (TANK & SRM BALANCE)	BETA	A	155-161
21	LV (01 T12 S12 N25), MACH = 1.00 (TANK & SRM BALANCE)	BETA	A	162-168
22	LV (01 T12 S12 N25), MACH = 1.10 (TANK & SRM BALANCE)	BETA	A	169-175
23	LV (01 T12 S12 N25), MACH = 1.15 (TANK & SRM BALANCE)	BETA	A	176-182

INDEX OF DATA FIGURES (Contd.)

FIGURE	TITLE	CONDITIONS VARYING	PLOTTED COEFFICIENTS SCHEDULE		PAGES
24	LV (01 T12 S12 N25, MACH = 1.25 (TANK & SRM BALANCE)	BETA	A		183-189
25	LV (01 T12 S12 N25), MACH = 1.40 (TANK & SRM BALANCE)	BETA	A		190-196
26	LVAP (01 T12 S12 N25 AT11), BETA = 0 (ORBITER BALANCE)	MACH	A		197-203
27	LVAP (01 T12 S12 N25 AT11), ALPHA = 0 (ORBITER BALANCE)	MACH	B		204-210
28	LVAP (01 T12 S12 N25 AT11), ALPHA = 0 (ORBITER BALANCE)		C		211-217
29	LVAP (01 T12 S12 N25 AT11), MACH = .6 (ORBITER BALANCE)	BETA	A		218-224
30	LVAP (01 T12 S12 N25 AT11), MACH = .75 (ORBITER BALANCE)	BETA	A		225-231
31	LVAP (01 T12 S12 N25 AT11), MACH = .85 (ORBITER BALANCE)	BETA	A		232-239

INDEX OF DATA FIGURES (Contd.)

FIGURE	TITLE	CONDITIONS VARYING	PLOTTED COEFFICIENTS SCHEDULE		PAGES
32	LVAP (01 T12 S12 N25 AT11), MACH = .95 (ORBITER BALANCE)	BETA	A		239-245
33	LVAP (01 T12 S12 N25 AT11), MACH = 1.05 (ORBITER BALANCE)	BETA	A		246-252
34	LVAP (01 T12 S12 N25 AT11), MACH = 1.15 (ORBITER BALANCE)	BETA	A		253-259
35	LVAP (01 T12 S12 N25 AT11), MACH = 1.4 (ORBITER BALANCE)	BETA	A		260-266
36	LV (01 T12 S12 N25), MACH = .6 (ORBITER BALANCE)	BETA	A		267-273
37	LV (01 T12 S12 N25), MACH = .75 (ORBITER BALANCE)	BETA	A		274-280
38	LV (01 T12 S12 N25), MACH = .85 (ORBITER BALANCE)	BETA	A		281-287
39	LV (01 T12 S12 N25), MACH = .90 (ORBITER BALANCE)	BETA	A		288-294

INDEX OF DATA FIGURES (Contd.)

FIGURE	TITLE	CONDITIONS VARYING	PLOTTED COEFFICIENTS SCHEDULE		PAGES
40	LV (01 T12 S12 N25), MACH = .95 (ORBITER BALANCE)	BETA	A		295-301
41	LV (01 T12 S12 N25), MACH = .975 (ORBITER BALANCE)	BETA	A		302-308
42	LV (01 T12 S12 N25), MACH = 1.05 (ORBITER BALANCE)	BETA	A		309-315
43	LV (01 T12 S12 N25), MACH = 1.10 (ORBITER BALANCE)	BETA	A		316-322
44	LV (01 T12 S12 N25), MACH = 1.15 (ORBITER BALANCE)	BETA	A		323-329
45	LV (01 T12 S12 N25), MACH = 1.25 (ORBITER BALANCE)	BETA	A		330-336
46	LV (01 T12 S12 N25), MACH = 1.40 (ORBITER BALANCE)	BETA	A		337-343

PLOTTED COEFFICIENTS SCHEDULE:

- A) CN, CLM, CA, CAF, CY, CYN, CBL versus ALPHA
- B) CN, CLM, CA, CAF, CY, CYN, CBL versus BETA
- C) CN, CLM, CA, CAF, CY, CYN, CBL versus MACH

INTRODUCTION

The 0.030-scale aero loads Space Shuttle Model was tested in the ARC Unitary Plan Wind Tunnels as follows:

IA14A	4 thru 13 Sept. 1973
IA14B	17 thru 19 Sept. 1973
OA22A	13 thru 14 Sept. 1973
OA22B	19 thru 20 Sept. 1973

For tests IA14B, OA22A, and OA22B, see reference 34, 35, and 36, respectively.

The testing was conducted in the 11-foot and the 9- by 7-foot tunnels of the ARC Unitary Plan Wind Tunnels. The IA14A/B tests were for the launch configurations at Mach numbers from 0.6 to 2.2. The OA22A/B tests were for the orbiter alone configuration at Mach numbers from 0.6 to 2.2. The effects of control surface deflections were also investigated in tests OA22A/B.

This report for test IA14A consists of one volume of force data and ten volumes of pressure data for a total of eleven volumes arrayed in the following manner:

Volume No.	Contents	Page
1.	IA14A force data	
2.	IA14A plotted pressure data	
3.	IA14A tabulated pressure data	
	(a) Orbiter fuselage (B)	1-725
	(b) Orbiter base (C)	726-918

Volume No.	Contents	Page
4.	IA14A tabulated pressure data	
	(a) OMS nozzle (E)	919-1145
	(b) Body flap (F)	1146-1338
	(c) OMS pod outside (M)	1339-1531
5.	IA14A tabulated pressure data	
	(a) Lower wing surface (L)	1532-2414
6.	IA14A tabulated pressure data	
	(a) Upper wing surface (U)	2415-3297
7.	IA14A tabulated pressure data	
	(a) Left vertical tail surface (V)	3298-3603
	(b) Right vertical tail surface (R)	3604-3909
8.	IA14A tabulated pressure data	
	(a) SRM booster (S)	3910-4444
9.	IA14A tabulated pressure data	
	(a) External tank (T)	4445-5031
	(b) SRM nozzle (X)	5032-5161
10.	IA14A tabulated pressure data	
	(a) External tank base & SRM booster base (Y)	5162-5354
	(b) Orbiter attach points (1)	5355-5941
11.	IA14A tabulated pressure data	
	(a) External tank attach points (2)	5942-6313
	(b) External tank base rake (3)	6314-6412

NOMENCLATURE
General

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
a		speed of sound; m/sec, ft/sec
C _p	CP	pressure coefficient; $(P_l - P_\infty)/q$
M	MACH	Mach number; V/a
P		pressure; N/m ² , psf
q	Q(NSM) Q(PSF)	dynamic pressure; $1/2\rho V^2$, N/m ² , psf
RN/L	RN/L	unit Reynolds number; per m, per ft
V		velocity; m/sec, ft/sec
α	ALPHA	angle of attack, degrees
β	BETA	angle of sideslip, degrees
ψ	PSI	angle of yaw, degrees
ϕ	PHI	angle of roll, degrees
ρ		mass density; kg/m ³ , slugs/ft ³

Reference & C.G. Definitions

A _b		base area; m ² , ft ²
b	BREF	reference span; m, ft
c.g.		center of gravity
\bar{c}		reference length or wing mean aerodynamic chord; m, ft
S	SREF	wing area or reference area; m ² , ft ²
	MRP	moment reference point
	XMRP	moment reference point on X axis
	YMRP	moment reference point on Y axis
	ZMRP	moment reference point on Z axis

SUBSCRIPTS

b	base
l	local
s	static conditions
t	total conditions
∞	free stream

NOMENCLATURE (Continued)

Body-Axis System

<u>SYMBOL</u>	<u>SADSAC SYMBOL</u>	<u>DEFINITION</u>
C_N	CN	normal-force coefficient; $\frac{\text{normal force}}{qS}$
C_A	CA	axial-force coefficient; $\frac{\text{axial force}}{qS}$
C_Y	Y	side-force coefficient; $\frac{\text{side force}}{qS}$
C_{A_b}	CAB	base-force coefficient; $\frac{\text{base force}}{qS}$ $-A_b(p_b - p_\infty)/qS$
C_{A_f}	CAF	forebody axial force coefficient, $C_A - C_{A_b}$
C_m	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$
C_n	CYN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
C_l	CTL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$

Stability-Axis System

C_L	CL	lift coefficient; $\frac{\text{lift}}{qS}$
C_D	CD	drag coefficient; $\frac{\text{drag}}{qS}$
C_{D_b}	CDB	base-drag coefficient; $\frac{\text{base drag}}{qS}$
C_{D_f}	CDF	forebody drag coefficient; $C_D - C_{D_b}$
C_Y	CY	side-force coefficient; $\frac{\text{side force}}{qS}$
C_m	CLM	pitching-moment coefficient; $\frac{\text{pitching moment}}{qS l_{REF}}$
C_n	CLN	yawing-moment coefficient; $\frac{\text{yawing moment}}{qS b}$
C_l	CSL	rolling-moment coefficient; $\frac{\text{rolling moment}}{qS b}$
L/D	L/D	lift-to-drag ratio; C_L/C_D

NOMENCLATURE (Continued)
Additions To Standard List

<u>Symbol</u>	<u>SADSAC Symbol</u>	<u>Definition</u>
$A_{()}$		model base area, subscript is base orifice number and identifies location
C_{A_b}	CAB	model base axial-force coefficient
$C_{p_{()}}$		model static pressure coefficient, subscript is orifice number, $[p_{()} - p_{\infty}]/q$
C_{AU}	CA	axial-force coefficient, unadjusted
C_{AF}	CAF	forebody axial-force coefficient, C_{AU} adjusted for base terms
ET		external tank
IV		integrated vehicle, consists of orbiter, external tank, and two solid rocket motors
l_{REF}	LREF	reference length, inches
MRC		moment reference center
OMS		orbital maneuvering system
δ_e	ELEVON	elevon, surface deflection angle, positive deflection trailing edge down, degrees
δ_f	BDFLAP	orbiter body flap deflection angle, positive deflection angle is trailing edge down, degrees
δ_R	RUDDER	rudder, surface deflection angle, positive deflection trailing edge to the left, degrees
δ_{SB}	SPDBRK	speed brake deflection angle, left split rudder trailing edge left and right split rudder trailing edge right, $\delta_{SB} = (\delta_{RL} + \delta_{RR})/2$, positive deflection, degrees
i_0	ORBINC	incidence angle between the orbiter and external tank, $i_0 = \alpha_0 - \alpha_T$, degrees

NOMENCLATURE (Continued)

β_T	BETAT	angle of sideslip of external tank, degrees
α_T	ALPHAT	angle of attack of external tank, degrees
l_B	LB	length of orbiter body, in
l_T	LT	length of external tank, in
l_S	LS	length of SRM booster, in
l_{NM}	LNМ	length of OMS nozzle, positive direction forward of exit plane, in
l_{NP}	LNP	length of MPS nozzle, positive direction forward of exit plane, in
$b/2$	BW	wing semi-span, in
b_v	BV	vertical tail span, in
x	X	distance from component nose, in
y	Y	lateral distance from centerline, in
z	Z	vertical distance measured from W.L. 500 (vertical tail reference root chord), in
c_w	CW	local wing chord, in
c_v	CV	local vertical tail chord, in
x/l_B	X/LB	longitudinal position/orbiter body length
x/l_T	X/LT	longitudinal position/external tank length
x/l_S	X/LS	longitudinal position/booster length
x/l_{NM}	X/LNM	longitudinal position/OMS nozzle length

NOMENCLATURE (Concluded)

x/l_{NP}	X/LNP	longitudinal position/MPS nozzle length
x/c_w	X/CW	local chordwise position/local wing chord length
x/c_v	X/CV	local chordwise position/local vertical tail chord length.
η	Y/BW	local spanwise position/wing semi-span
η_v	Z/BV	local spanwise position/vertical tail span
x_{CP}/l	XCP/L	center of pressure distance from MRC, expressed as a fraction of body length
β_0	BETA0	angle of sideslip of orbiter
α_0	ALPHA0	angle of attack of orbiter

CONFIGURATIONS INVESTIGATED

The 0.030-scale Aero Loads Model, 47-OTS, was configured after the Shuttle Vehicle MCR 0200 Baseline R1, as defined in drawing number VL70-000088B. The orbiter configuration was a combination of the VL70-000140A orbiter and a VL70-000140B wing and midbody, from which the 140A/B designation was derived. The basic launch configuration consisted of the orbiter, an external tank with simulated fuel and vent lines, and two solid rocket boosters, designated O_1 T_{12} S_{12} N_{25} .

Three launch configurations were tested. One was the basic configuration described above mounted on a dual balance and sting arrangement, illustrated in figure 2d. A second contained attach hardware, designated AT_{10} , mating the orbiter with the external tank and mounted on a single sting and balance in the orbiter, illustrated in figure 2b. The third utilized a similar attach hardware configuration, designated AT_{11} , which was attached to the orbiter but not to the external tank and was mounted on the same dual sting and balance arrangement as the basic configuration (figure 2c). In all three configurations, the SRB-to-ET attach hardware was simulated at the forward attach location but not at the aft attach location. Model and component general arrangements are shown in figures 2e through 2o.

Component	Description
O_1	140A/B orbiter minus the main propulsion system nozzles
T_{12}	324-inch diameter external tank with ogive nose and external fuel and vent lines
S_{12}	142.3-inch diameter solid rocket boosters

N_{25}	Nozzles for S_{12} boosters
AT_{10}	Orbiter-to-ET attach hardware, fixed to both vehicles
AT_{11}	Orbiter-to-ET attach hardware, fixed to orbiter only
LV	$O_1 T_{12} S_{12} N_{25}$
LVA	$O_1 T_{12} S_{12} N_{25} AT_{10}$
LVA ^P	$O_1 T_{12} S_{12} N_{25} AT_{11}$

The orbiter O_1 , consisted of the following components:

$B_{26} C_9 F_8 M_7 N_{28} V_8 R_5 W_{116} E_{26}$.

B_{26}	Double delta wing fuselage, 140A/B
C_9	Canopy, 140A
F_8	Body flap, 140A
M_7	OMS pods, 140A
N_{28}	OMS nozzles, 140A
V_8	Vertical tail, 140A
R_5	Rudder, 140A
W_{116}	Double delta wing, 140B
E_{26}	Elevons, 140B

Parametric investigations were limited to angles of attack and side-slip with all orbiter control surfaces at 0° deflection.

INSTRUMENTATION DESCRIPTION

The left side of the orbiter and the external tank and the left hand SRB were extensively instrumented with pressure orifices for measurement of surface static pressure distributions. Additionally, there were clusters of orifices around inter-component attach structure locations on the right hand side of the orbiter and external tank. The orbiter contained 471 operational orifices, of which 83 were clustered around attach structure. The external tank contained 270 operational orifices, of which 127 were clustered around attach structure. The SRB contained 124 operational orifices. A three-tube total pressure rake was installed in the opening between the orbiter and external tank. Tables and sketches defining orifice locations are included in this report. All model pressures were measured by model mounted Scanivalve, Inc., S-type scanivalve modules - twelve in the orbiter, seven in the external tank, and five in the SRB.

Force instrumentation consisted of a six-component internal force balance in both the orbiter and external tank for the LV and LVAP configurations, and a single six-component internal force balance in the orbiter for the attached LVA configuration.

TEST FACILITY DESCRIPTION

The tests were conducted in the Ames 11- by 11-Foot Transonic Wind Tunnel which is a variable density, closed return, continuous flow type. This tunnel has an adjustable nozzle (two flexible walls) and a slotted test section to permit transonic testing over a Mach number range continuously variable from 0.4 to 1.4.

DATA REDUCTION

Data were reduced to coefficient form about body axes using the following reference constants:

$S_{REF} = 2.421 \text{ ft}^2$	reference area for force and moment coefficients
$l_{REF} = 38.709 \text{ in}$	reference length for moment coefficients
$A_1 = 0.07670 \text{ ft}^2$	Orbiter sting cavity
$A_2 = 0.21340 \text{ ft}^2$	Orbiter heat shield base
$A_3 = 0.08560 \text{ ft}^2$	Orbiter OMS base (2)
$A_4 = (\text{see table below})$	Orbiter speed brake base
$A_{501} = 0.07266 \text{ ft}^2$	Tank sting cavity
$A_{502} = 0.44264 \text{ ft}^2$	Tank base
$A_{801} = 0.19600 \text{ ft}^2$	SRM nozzle base (2)
$A_{802} = 0.16590 \text{ ft}^2$	SRM skirt base (2)
$\delta_{SB} = \begin{array}{l} 0 \\ 14.92 \\ 24.92 \\ 34.92 \\ 54.92 \\ 84.92 \end{array} \text{ deg}$	$A_4 = \begin{array}{l} 0 \\ 0.02327 \\ 0.03866 \\ 0.05370 \\ 0.08252 \\ 0.12083 \end{array} \text{ ft}^2$
$X_{MRP} = 0 \text{ in}$	
$Y_{MRP} = 0 \text{ in}$	
$Z_{MRP} = 9.99 \text{ in}$	

The incidence angle between the orbiter and the external tank is equal to zero for angle of attack and angle of sideslip. Therefore, the angle of attack, ALPHA, used in the force plots is equal to ALPHA0. Also the angle of sideslip, BETA, used in the force plots is equal to BETA0.

The force and moment data recorded by the orbiter balance for configuration LV and LVAP are identified as RB10XX datasets. Force and moment data recorded by the tank balance for configuration LV and LVAP and by the orbiter balance for LVA (composite) are identified by RB11XX.

The pressure data were recorded for each component. The fourth character in each dataset identifier (i.e. RB1BXX, B for fuselage) represents the individual component. The following list indicates the symbol for each component.

SYMBOL	COMPONENT
B	Orbiter fuselage
C	Orbiter base
E	OMS nozzle
F	Body flap
M	OMS pod outside
L	Lower wing surface
U	Upper wing surface
R	Right vertical tail surface
V	Left vertical tail surface
S	SRM booster
T	External tank
X	SRM nozzle

SYMBOL	COMPONENT
Y	External tank base & SRM booster base
1	Orbiter attach points
2	External tank attach points
3	External tank base rake

REFERENCES

1. Orbiter - Lines and Configuration Control Drawings
2. VL70-000140A, Orbiter Configuration Control Drawing MCR 0200 Baseline
3. VL70-000143A, Lines Control, Vehicle 4 Forward Body - Cabin - Canopy MCR 0200 Baseline
4. VL70-000200, Lines Control, Midbody - Wing - Boot Fairing MCR 200 R3 dated 7-2-73
5. VL70-000145, Lines Control - Aft Body - OMS/RCS Pods, MCR 0200 - R1 baseline
6. VL70-000146A, Lines Control (Vehicle 4) Vertical Tail MCR 0200 Baseline
7. External Oxygen Hydrogen Tank (EOHT) - Lines and Configuration Control Drawings
8. VL78-000041B, External Tank - Configuration Control MCR 0200 Baseline R2
9. VL78-000024A, Structural Assy - External Tank MCR 0200 R2
10. VL78-000031A, Thermal Protection - External Tank, MCR 0200 Baseline
11. Solid Rocket Boosters (SRB) - Lines and Configuration Control Drawings
12. VL77-000036A, SRB Configuration Control MCR 0200 R1
13. VL77-000041, SRB Booster Assy, MCR 0200 R1
14. Integrated Vehicle - Lines and Configuration Control Drawings
15. VL72-000088A, Shuttle Configuration MCR 0200 Baseline R1
16. VL72-000089, SRB-ET-Orbiter Interface Disconnects MCR 0200 Baseline
17. VL72-000075, External Tank to SRB Attach Interface MCR 0074 Baseline
18. Aero Loads Model 47-OTS - Model Fabrication, Assembly and Installation Drawings

19. SS-A00119, Orbiter Assy - .030 Scale Pressure/Loads Model (140A/B Lines)
20. SS-A00120, Assy & Details - EOHT - .030 Scale Pressure/Loads Model (140A Lines)
21. SS-A00121, Orbiter, EOHT Attachments .030 Scale Pressure/Loads Model (140A Lines)
22. SS-A00122, Assy & Details - SRM - .030 Scale Pressure/Loads Model (140A Lines)
23. SS-A00123, Assy & Details - Forebody - .030 Scale Pressure/Loads Model (140A Lines)
24. SS-A00124, Assy & Details - Aft Fuselage - .030 Scale Pressure/Loads Model (140A Lines)
25. SS-A00125, Assy & Details - Wing Splice Plate & Cuff - .030 Scale Pressure/Loads Model (140A Lines)
26. SS-A00126, Assy & Details - Vertical Stabilizer - .030 Scale Pressure/Loads Model (140A Lines)
27. SS-A00127, Ames 11-ft x 11-ft Wind Tunnel Installation - .030 Scale Pressure/Loads Model (140A/B Lines)
28. SS-A00128, Ames 9-ft x 7-ft Wind Tunnel Installation - .030 Scale Pressure/Loads Model (140A/B Lines)
29. SS-A00130, Lines Control - Profile VL70-000140A - .030 Scale Pressure/Loads Model (140A/B Lines)
30. W-1104S Sting - Ames MK II 4" Balance (Male End), Ames MK XX 2.5" Balance
31. W-1105S, Sting - Ames MK II 4" Balance (Male End), RI MK I 2.75 Balance
32. W-1106A, Adapter - Ames MK II, 4" Balance (Male & Female)
33. W-1107A, 13.5° Bent Sting Adapter Ames MK II 4" Balance (Male & Female)

34. (DMS-DR-2129), "Airloads Investigation of an 0.030-Scale Model of the Space Shuttle Vehicle 140A/B Launch Configuration (Model 47-OTS) in the ARC 9- by 7-foot Unitary Plan Wind Tunnel for Mach Range 1.55 and 2.2 (IA14B)"
35. (DMS-DR-2130), "Airloads Investigation of an 0.030-Scale Model of the Space Shuttle Vehicle 140A/B Orbiter Configuration (Model 47-0) in the ARC 11-foot Unitary Plan Wind Tunnel for Mach Range 0.6 and 0.9 (OA22A)"
36. (DMS-DR-2131), "Airloads Investigation of an 0.030-Scale Model of the Space Shuttle Vehicle 140A/B Orbiter Configuration (Model 47-0) in the ARC 9- by 7-foot Unitary Plan Wind Tunnel for Mach Range 1.55 and 2.2 (OA22B)"

TABLE I.

TEST : <u>JA-14A</u>	DATE : <u>9-13-73</u>		
TEST CONDITIONS			
MACH NUMBER	REYNOLDS NUMBER (per unit length)	DYNAMIC PRESSURE (pounds/sq. ft.)	STAGNATION TEMPERATURE (degrees Fahrenheit)
0.60	4.0×10^6	480	120
0.75	3.75×10^6	540	120
0.85	3.5×10^6	550	120
0.90	3.5×10^6	580	120
0.95	3.25×10^6	610	120
0.975	3.0×10^6	530	120
1.00	3.0×10^6	535	120
1.025	3.0×10^6	540	120
1.05	3.0×10^6	545	120
1.10	3.0×10^6	550	120
1.15	3.0×10^6	575	120
1.25	2.75×10^6	540	120
1.40	2.75×10^6	570	120

BALANCE UTILIZED: LVA: 2.5-in MK XX (ORBITER)
LVAP: 2.5-in MK XX (ORB.), 2.75-in MK I (ET)

	CAPACITY:		ACCURACY:		COEFFICIENT TOLERANCE:
	MK XX	MK I	MK XX	MK I	
NF	6000	7500			
SF	3000	3750	0.2%	0.2%	
AF	600	700	0.2%	0.2%	
PM					
RM	4000	4000	0.2%	0.2%	
YM					

COMMENTS: Test conditions for LVA and LVAP model configurations

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TABLE I. - Concluded.

TEST : IA-14A	DATE : 9-13-73		
TEST CONDITIONS			
MACH NUMBER	REYNOLDS NUMBER (per unit length)	DYNAMIC PRESSURE (pounds/sq. ft)	STAGNATION TEMPERATURE (degrees Fahrenheit)
0.60	4.0×10^6	480	120
0.75	4.25×10^6	610	120
0.85	4.5×10^6	710	120
0.90	4.5×10^6	750	120
0.95	4.5×10^6	780	120
0.975	4.25×10^6	750	120
1.05	4.25×10^6	790	120
1.10	4.0×10^6	760	120
1.15	3.75×10^6	720	120
1.25	2.75×10^6	735	120
1.40	3.0×10^6	620	120

BALANCE UTILIZED:	2.5-in MK XX (ORB.), 2.75-in MK I (ET)		
	CAPACITY:	ACCURACY:	COEFFICIENT TOLERANCE:
	MK XX MK I	MK XX MK I	
NF	6000 7500	0.2% 0.2%	_____
SF	3000 3750	0.2% 0.2%	_____
AF	600 700	0.2% 0.2%	_____
PM	_____	_____	_____
RM	4000 4000	0.2% 0.2%	_____
YM	_____	_____	_____

COMMENTS: Test conditions for LV model config.

TABLE II

TEST: I-4A				DATA SET RUN NUMBER COLLATION SUMMARY										DATE: 12 Sep 67																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
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TABLE II - Continued

TEST: I A14A		DATA SET/RUN NUMBER COLLATION SUMMARY										DATE: 12 Sept 1975																												
DATA SET IDENTIFIER	CONFIGURATION	SCHD.		PARAMETERS/VALUES				NO. OF RUNS	FILM (OR ALTERNATE INDEPENDENT VARIABLE)										TEST RUN NUMBERS																					
		B	M	δR	δS	δT	δV		-10	-8	-6	-4	-2	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48		
RBI x 31	$\phi_1 + T_{12} + S_{12} N_{25} + AT_{10}$	A	.9	0	0	0	0		1*	2*	3*	4*	5	6	7	12	13	14	15																					
32		↑	1.1						16*	17*	18*	19*	20	21	22	23	24	25	26																					
33		↓	1.25						27*	28*	29*	30*	31	32	33	34	35	36	37																					
34	$+AT_{11}$	B	1.60						47			48	49			50		51																						
35		↑	.75						56			55	54			53		52																						
36			.85						42			43	44			45		46																						
37			.95						57			58	59			60		61																						
38			1.05						63			64	65			66		67																						
39			1.15						68			69	70			71		72																						
40			1.4						84			85	86			87		88																						
41			.60						149			148	147			146		145																						
42			.75						140			141	142			143		144																						
43			.85						135			136	137			138		139																						
44			.90						130			131	132			133		134																						
45			.75						125			126	127			128		129																						
46			.75						120			121	122			123		124																						
47			1.50						115			116	117			118		119																						
48	↓	↓	1.10						110			111	112			113		114																						
1	7	13	19	25	31	37	43	49	55	61	67	73	79	85	91	97	103	109	115																					
COEFFICIENTS																																								
$\beta(A) = -10 \pm 10, 2 \text{ THICKNESS}$																																								
$\beta(B) = -3, -4, 4, 5$																																								
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* FORCE DATA NOT AVAILABLE.

TABLE II - Concluded

[illegible]

TABLE III. - MODEL DIMENSIONAL DATA

MODEL COMPONENT: ATTACH STRUCTURE - AT₁₀GENERAL DESCRIPTION: Attach structure for Integrated Vehicle Configuration4 per VL72-000088B and VL72-000089, modified as follows: RemovedET-to-SRM aft attach struts (4) and left orbiter to right ET aftattach crossover rod.MODEL SCALE: 0.030

DRAWING NO.: SEE DESCRIPTION

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
FORWARD ATTACH		
Orbiter to Tank		
Number of struts	<u>2</u>	<u>2</u>
Diameter - In.	<u>6.000</u>	<u>0.180</u>
Location - In.		
X _O	<u>382.000</u>	<u>11.460</u>
X _T	<u>1078.000</u>	<u>32.340</u>
DRAG LINK ATTACH		
Orbiter to Tank		
Number of struts	<u>2</u>	<u>2</u>
Diameter, In.	<u>15.000</u>	<u>0.450</u>
Location, In.		
X _O	<u>1307.000</u>	<u>39.210</u>
X _T	<u>1859.000</u>	<u>55.770</u>
AFT ATTACH		
Orbiter to Tank		
Number of struts	<u>2</u>	<u>2</u>
Diameter - In.	<u>12.000</u>	<u>0.360</u>
Location - In.		
X _O	<u>1307.000</u>	<u>39.210</u>
X _T	<u>2058.000</u>	<u>61.740</u>
CROSSOVER ROD (RIGHT ORBITER TO LEFT ET)		
Diameter, In.	<u>8.000</u>	<u>0.240</u>
Location - In.		
X _O	<u>1307.000</u>	<u>39.210</u>
X _T	<u>2058.000</u>	<u>61.740</u>

TABLE III. - Continued.

MODEL COMPONENT: ATTACH STRUCTURE - AT₁₁

GENERAL DESCRIPTION: Attach structure, same as AT₁₀ except the forward attach struts are rotated to the vertical, and the structure extends from the orbiter but is not attached to the tank.

MODEL SCALE: 0.030

DIMENSIONS:	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
FORWARD ATTACH		
Orbiter to Tank		
Location - In.		
X_0	<u>382.000</u>	<u>11.460</u>
X_T	<u>1133.000</u>	<u>33.990</u>
Clearance, tank to strut - In.	<u>16.667</u>	<u>0.500</u>
DRAG LINK ATTACH		
Orbiter to Tank		
Clearance, tank to strut - In.	<u>8.333</u>	<u>0.250</u>
AFT ATTACH		
Orbiter to Tank		
Clearance, Tank to strut - In.	<u>8.333</u>	<u>0.250</u>
Crossover Rod		
Clearance, tank to strut - In.	<u>8.333</u>	<u>0.250</u>

TABLE III. - Continued.

MODEL COMPONENT: BODY - B₂₆GENERAL DESCRIPTION: Orbiter Fuselage Configuration 140 A/BNOTE: B₂₆ identical to B₂₄ except underside of fuselage refaired to
accept W₁₁₆.Model Scale = .030DRAWING NUMBER: VL70-000193
VL70-000140A

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Length (Body Fwd Sta $X_0 = 238$) - in.	<u>1293.3</u>	<u>38.799</u>
Max. Width (at $X_0 = 1520$) - in.	<u>262.0</u>	<u>7.860</u>
Max. Depth (at $X_0 = 1464$) - in.	<u>250.0</u>	<u>7.500</u>
Fineness Ratio	<u>0.26357</u>	<u>0.26357</u>
Area - ft ²		
Max. Cross-Sectional	<u>340.88462</u>	<u>0.30679</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>

TABLE III. - Continued.

MODEL COMPONENT: CANOPY - Cg

GENERAL DESCRIPTION: Configuration 3A

Model Scale = .030

DRAWING NUMBER VL70-000140A
VL70-000142A

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length ($X_0=434.643$ to 670)	<u>235.357</u>	<u>7.06071</u>
Max Width ($\phi X_0=513.127$)	<u>152.412</u>	<u>4.57236</u>
Max Depth ($\phi X_0=485.0$)	<u>25.000</u>	<u>0.75000</u>
Fineness Ratio	<u></u>	<u></u>
Area	<u></u>	<u></u>
Max Cross-Sectional	<u></u>	<u></u>
Planform	<u></u>	<u></u>
Wetted	<u></u>	<u></u>
Base	<u></u>	<u></u>

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TABLE III. - Continued.

MODEL COMPONENT: ELEVON - E₂₆GENERAL DESCRIPTION: Configuration 4NOTE: VL70-000400 data for (1) of (2) sides. Identical to E₂₅ except
airfoil thickness

Model Scale = .030

DRAWING NUMBER: VL70-000200
VL70-000140 B

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Area	<u>223.5814</u>	<u>0.20122</u>
Span (equivalent)	<u>368.34</u>	<u>11.05020</u>
Inb'd equivalent chord	<u>119.623</u>	<u>3.58869</u>
Outb'd equivalent chord	<u>55.1922</u>	<u>1.6577</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>0.2096</u>	<u>0.2096</u>
At Outb'd equiv. chord	<u>0.4004</u>	<u>0.4004</u>
Sweep Back Angles, degrees		
Leading Edge	<u>0.00</u>	<u>0.00</u>
Tailing Edge	<u>-10.056</u>	<u>-10.056</u>
Hingeline	<u>0.00</u>	<u>0.00</u>
Area Moment (Normal to hinge line)	<u>851.1502</u>	<u>0.76604</u>

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TABLE III. - Continued.

MODEL COMPONENT: Body Flap - F_g

GENERAL DESCRIPTION: Configuration 4

Model Scale - .030
DRAWING NUMBER VL70-000140B, VL70-000200

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length in.	<u>84.7</u>	<u>2.541</u>
Max Width in.	<u>262.308</u>	<u>7.86924</u>
Max Depth in.	<u>23.000</u>	<u>0.69000</u>
Fineness Ratio	<u></u>	<u></u>
Area - ft ²	<u></u>	<u></u>
Max Cross-Sectional	<u></u>	<u></u>
Planform	<u>158.85350</u>	<u>0.14297</u>
Wetted	<u></u>	<u></u>
Base	<u>41.89642</u>	<u>0.03771</u>

TABLE III. - Continued.

MODEL COMPONENT: OMS POD - M7

GENERAL DESCRIPTION: Configuration 3A

Model Scale = .030

DRAWING NUMBER

VL70-000140A

VL70-000145

DIMENSION:

FULL SCALE

MODEL SCALE

Length (OMS Fwd Sta $X_0=1233.0$) - IN.

327.000

9.810

Max Width (@ $X_0=1450.0$) - IN.

94.5

2.8350

Max Depth (@ $X_0=1493.0$) - IN.

109.000

3.270

Fineness Ratio

Area

Max Cross-Sectional

Planform

Wetted

Base

TABLE III. - Continued.

MODEL COMPONENT: BSRM NOZZLES - N25GENERAL DESCRIPTION: Configuration 3A BSRM Nozzles

Model Scale = .030

DRAWING NO. VL72-000038A
VL77-000035A

DIMENSIONS

FULL-SCALE

MODEL SCALE

MACH NO. _____

DIAMETER DEX ~ IN (One Nozzle)

141.34.2390

DIAMETER DT ~ IN

DIAMETER DIN ~ IN

ON ~ DEGREES

AREA - FT² (One Nozzle)

MAX CROSS-SECTIONAL

108.895950.09801

GIMBAL ORIGIN

X_oY_oZ_o

LEFT NOZZLE ~ IN. F.S.

1825.3-243400

RIGHT NOZZLE ~ IN. FS

1825.3+243400

NULL POSITION - DEG.

PITCHYAW

LEFT NOZZLE

+8+8

RIGHT NOZZLE

+8+8

TABLE III. - Continued.

MODEL COMPONENT: NOZZLES - N28GENERAL DESCRIPTION: Configuration 3A O/S NozzleModel Scale = .030DRAWING NO. VL70-0001401

DIMENSIONS	FULL-SCALE	MODEL SCALE
MACH NO. _____		
DIAMETER DEX ~ IN (One nozzle)	_____	_____
DIAMETER DT ~ IN	_____	_____
DIAMETER DIN ~ IN	_____	_____
ON ~ DEGREES	_____	_____
AREA - Ft ² (one nozzle)		
MAX CROSS-SECTIONAL	_____	_____
GIMBAL ORIGIN	<u>X₀</u>	<u>Y₀</u> <u>Z₀</u>
LEFT NOZZLE ~ IN.	<u>1518.0</u>	<u>-88.0</u> <u>492.0</u>
RIGHT NOZZLE ~ IN.	<u>1518.0</u>	<u>+88.0</u> <u>492.0</u>
NULL POSITION	<u>PITCH</u>	<u>YAW</u>
LEFT NOZZLE (Null Pitch 15°49'; Yaw 12°17' OUTB'D)	<u>±8°</u>	<u>13°17' OUTB'D</u> <u>2°30' INB'D</u>
RIGHT NOZZLE (Null Pitch 15°49'; Yaw 12°17' OUTB'D)	<u>±8°</u>	<u>13°17' OUTB'D</u> <u>2°17' INB'D</u>

TABLE III. - Continued.

MODEL COMPONENT: RUDDER - E5GENERAL DESCRIPTION: 2A, 3 and 3A Configuration per Rockwell LinesVL70-000095Model Scale = .030DRAWING NUMBER: VL70-000095

<u>DIMENSIONS:</u>	<u>FULL-SCALE</u>	<u>MODEL SCALE</u>
Area - FT ²	<u>106.38</u>	<u>0.09574</u>
Span (equivalent) - IN.	<u>201.0</u>	<u>6.0300</u>
Inb'd equivalent chord	<u>91.585</u>	<u>2.74755</u>
Outb'd equivalent chord	<u>50.833</u>	<u>1.52499</u>
Ratio movable surface chord/ total surface chord		
At Inb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
At Outb'd equiv. chord	<u>0.400</u>	<u>0.400</u>
Sweep Back Angles, degrees		
Leading Edge	<u>34.83</u>	<u>34.83</u>
Tailing Edge	<u>26.25</u>	<u>26.25</u>
Hingeline	<u>34.83</u>	<u>34.83</u>
Area Moment (Normal to hinge line)- FT ³	<u>526.13</u>	<u>0.01420</u>
Product of Area and Mean Chord		

TABLE III. - Continued.

MODEL COMPONENT: BOOSTER SOLID ROCKET MOTOR - S₁GENERAL DESCRIPTION: Configuration 3A, Data for (1) of (2) sides,
per Rockwell Lines VL77-000036AModel Scale = .030DRAWING NUMBER VL72-000088A
VL77-000036A

<u>DIMENSION:</u>	<u>FULL SCALE</u>	<u>MODEL SCALE</u>
Length (Includes Nozzle) - IN.	<u>1741.0</u>	<u>52.2300</u>
Max Width (Tank Dia) - IN.	<u>142.3</u>	<u>4.2690</u>
Max Depth (Aft Shroud) - IN.	<u>192.0</u>	<u>5.7600</u>
Fineness Ratio	<u>9.06771</u>	<u>9.06771</u>
Area - FT ²		
Max Cross-Sectional	<u>201.06193</u>	<u>0.18096</u>
Planform	<u> </u>	<u> </u>
Wetted	<u> </u>	<u> </u>
Base	<u> </u>	<u> </u>
WP of BSRM Centerline (Z _T) - IN.	<u>400</u>	<u>12.000</u>
FS of BSRM Nose (X _T) - IN.	<u>200</u>	<u>6.000</u>

TABLE III. - Continued.

MODEL COMPONENT: EXTERNAL TANK - T12GENERAL DESCRIPTION: External Oxygen Hydrogen TankNOTE: Identical to T11 with external fuel lines addedModel Scale = .030

DRAWING NUMBER

VL78-000031AVL78-000041ADIMENSION:FULL SCALEMODEL SCALELength - IN. (Nose G X_T = 309)186557.629

Max Width (Dia) - IN.

3249.72

Max Depth

Fineness Ratio

5.756175.75617Area - FT²

Max Cross-Sectional

572.55517.177

Planform

Wetted

Base

WP of Tank Centerline (X_T) - IN.400.0ORIGINAL PAGE IS
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TABLE III. - Continued.

MODEL COMPONENT: VERTICAL - V₈GENERAL DESCRIPTION: Configuration 3A

NOTE: Similar to V5 with radius on TE upper corner and LE lower corner
 where vertical meets fuselage.

Model Scale = .030

DRAWING NUMBER:

VL70-000140AVL70-000146ADIMENSIONS:FULL-SCALEMODEL SCALETOTAL DATA

Area (Theo) Ft ²	<u>413.253</u>	<u>0.37193</u>
Planform		
Span (Theo) in	<u>315.720</u>	<u>9.47160</u>
Aspect Ratio	<u>1.675</u>	<u>1.675</u>
Rate of Taper	<u>0.507</u>	<u>0.507</u>
Taper Ratio	<u>0.40399</u>	<u>0.40399</u>
Sweep Back Angles, degrees		
Leading Edge	<u>45.00</u>	<u>45.00</u>
Trailing Edge	<u>25.947</u>	<u>25.947</u>
0.25 Element Line	<u>41.130</u>	<u>41.1300</u>
Chords:		
Root (Theo) WP	<u>268.500</u>	<u>8.05500</u>
Tip (Theo) WP	<u>108.470</u>	<u>3.25410</u>
MAC	<u>199.80756</u>	<u>5.99423</u>
Fus. Sta. of .25 MAC	<u>1463.50</u>	<u>43.9050</u>
W. P. of .25 MAC	<u>635.522</u>	<u>19.06566</u>
B. L. of .25 MAC	<u>0.00</u>	<u>0.00</u>
Airfoil Section		
Leading Wedge Angle Deg	<u>10.00</u>	<u>10.00</u>
Trailing Wedge Angle Deg	<u>14.920</u>	<u>14.920</u>
Leading Edge Radius (in) - IN.	<u>2.00</u>	<u>0.060</u>
Void Area	<u>13.17</u>	<u>0.01185</u>
Blanketed Area	<u>0.00</u>	<u>0.00</u>

ORIGINAL PAGE 14
 OF POOR QUALITY

TABLE III. - Concluded.

ORIGINAL PAGE
OF POOR QUALITYMODEL COMPONENT: WING-N₁₆GENERAL DESCRIPTION: Configuration 4NOTE: Identical to W_{11A} except airfoil thickness. Dihedral angle is along
trailing edge of wing.Model Scale = .030

TEST NO.	DWG. NO.	VL70-000133B VL70-000200
DIMENSIONS:	FULL-SCALE	MODEL SCALE
TOTAL DATA		
Area (Theo.) Ft ²		
Planform	2690.00	2.4210
Span (Theo In.	936.6816	28.10045
Aspect Ratio	2.265	2.265
Rate of Taper	1.177	1.177
Taper Ratio	0.200	0.200
Dihedral Angle, degrees(at X ₀ =1506.623, Y ₀ =	3.500	3.500
Incidence Angle, degrees 105, Z ₀ = 282.75)	0.500	0.500
Aerodynamic Twist, degrees	+3.000	+3.000
Sweep Back Angles, degrees		
Leading Edge	45.00	45.00
Trailing Edge	-10.056	-10.056
0.25 Element Line	35.209	35.209
Chords:		
Root (Theo) B.P.C.O.	689.2429	20.67729
Tip, (Theo) B.P.	137.8486	4.13546
MAC	474.8117	14.24435
Fus. Sta. of .25 MAC	1126.721	33.80163
W.P. of .25 MAC	291.00	8.73000
B.L. of .25 MAC	187.33491	5.62005
EXPOSED DATA		
Area (Theo) Ft ²	1812.2205	1.63010
Span, (Theo) In. BP108	736.6816	22.10045
Aspect Ratio	2.058	2.058
Taper Ratio	0.2451	0.2451
Chords		
Root BP108	570.6230	17.11869
Tip 1.00 $\frac{b}{2}$	137.8512	4.13554
MAC	354.2376	10.62713
Fus. Sta. of .25 MAC	1164.237	34.92711
W.P. of .25 MAC	292.00	8.76000
B.L. of .25 MAC	239.67786	7.19034
Airfoil Section (Rockwell Mod NASA)		
XXXX-64		
Root $\frac{b}{2}$ = 0.425	0.113	0.113
Tip $\frac{b}{2}$ = 1.00	0.12	0.12
Data for (1) of (2) Sides		
Leading Edge Cuff		
Planform Area Ft ²	118.333	0.10650
Leading Edge Intersects Fus M. L. @ Sta	505.0	15.15000
Leading Edge Intersects Wing @ Sta	1003.5	30.10500

TABLE IV. - ORBITER FUSELAGE PRESSURE ORIFICE LOCATIONS

ORBITER X ₀ IN.			RADIAL LOCATION Ø DEGREES																		
FULL	MODEL	X ₀ /l ₀	0	20	40	55	70	90	105	110	120	135	140	150	151	156	162	165	169	174	180
235	7.05	0	6					8						1							9
245	7.35	.008	7					15			16			26							16
265	7.95	.023	10	11	12	13	14	15			25			35							27
295	8.85	.047	19	20	21	22	23	24			34			44							36
325	9.75	.070	28	29	30	31	32	33			43										45
380	11.40	.112	37	38	39	40	41	42												46	
440	13.20	.159	47	48	49	50	51	52			53				57	54	58		55		56
450	13.50	.167											66								
465	13.95	.178																68			69
500	15.00	.205	59	60	61	62	63	64			65			67				76			77
560	16.80	.252	70		71		72	73			74			75				84			85
625	18.75	.301	78		79		80	81			82			83				92			93
725	21.75	.379	86		87		88	89			90			91				100			101
880	26.40	.499	94		95		96	97			98			99							
980	29.40	.576	102		103																
1080	32.40	.653	104		105		106	107			108			109				110			111
1180	35.40	.730	112		113		114	115			116			117							118
1245	37.35	.781	119		120		121	122	123		124	125		126				127			128
1300	39.00	.823	129		130		131	132	133		134	135		136				146			137
1375	41.25	.882	138		139		140	141	142		143	144		145				155			
1430	42.90	.923	147		148		149	150	151		152	153		154				164			
1480	44.40	.963	156		157		158	159	160		161			163							
a 1530	45.90	1.002								165	166										
b 1530	45.90	1.002								167	168										
c 1555	46.65	1.021	169		170																
d 1590	47.70	1.048	171		172																
1590	47.70	1.018	173		174																

a: OMS pod, inside c: Body flap lower surface

b: OMS pod, outside d: Body flap upper surface

l₀ = 1293.3 full scale

l₀ = 38.799 model

data in datasets RB1BXX

ORBITER WING

$$\begin{array}{l} 1 \quad x/c = .19 \\ 2 \quad x/c = .34 \\ 3 \quad x/c = .03 \\ 4 \quad y/c = .045 \end{array}$$

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data in data sets RBLXX (lower surface and RBLXX (upper surface)

TABLE VI. - ORBITER VERTICAL TAIL PRESSURE ORIFICE LOCATIONS

ORBITER VERTICAL TAIL

VERTICAL $W_L \sim Z_O$			X/C _V									
FULL	MODEL	η_V		0	.025	.05	.15	.30	.52	.685	.775	.90
550	16.50	.158	RH LE LH	316		324 317	325 319	326 320	327 321	328 322	329 323	
600	18.00	.316	RH LE LH	330		339 331	340 333	341 334	342 335	343 336	344 337	345 338
690	20.70	.600	RH LE LH	346		355 347	356 349	357 350	358 351	359 352	360 353	361 354
765	22.95	.840	RH LE LH	362		371 363	372 365	373 366	374 367	375 368	376 369	377 370
792	23.76	.925	RH LE LH	378		387 379	388 381	389 382	390 383	391 384	392 385	393 386

data in datasets RBIVXX (left side) and RBIRXX (right side)

TABLE VII. - ORBITER BASE, BODYFLAP, AND OMS NOZZLE PRESSURE ORIFICE LOCATIONS

ORBITER BASE

LOCATION	ORIFICE NUMBER
Orbiter Sting Cavity	1
Orbiter Base (Lower Left Corner)	2
OMS Nozzle Base	3

data in datasets RB1CXX

RUDDER FLARE BASE

RUDDER $\omega_L \sim Z_O$		X/C_V
FULL	MODEL	.75
725	18.75	4
625	21.75	5

data in datasets RB1CXX

BODY FLAP

ORBITER $\sim X_O$		$\phi \sim \text{Deg}$	
FULL	MODEL	0	40
1555	46.65	169	170
1590	47.70	173	174
1590	47.70	171	172

data in datasets RB1FXX

LEFT OMS NOZZLE SURFACE

$X \sim \text{IN. FWD. NOZZLE EXIT}$		$\phi \sim \text{DEG.}$		
FULL	MODEL	135	180	225
10	.30	175	176	177
20	.60		178	

data in datasets RB1EXX

TABLE VIII. - EXTERNAL TANK PRESSURE ORIFICE LOCATIONS

TANK STATION $\sim x_T$			EXTERNAL TANK									
			$\phi \sim \text{DEG.}$									
FULL SCALE	MODEL SCALE	$\frac{x_T}{r_T}$	0	30	60	90	120	135	150	165	180	270
509	9.27	0	503			505			513		506	507
524	9.72	.008	504			511	512		520	521	514	
400	12.00	.049	508	509	510	518	519		528	529	522	
520	15.60	.113	515	516	517	526	527		536	537	530	
640	19.20	.178	523	524	525	534	535		544	545	538	
670	20.10	.194	531	532	533	542	543		553	554	546	
710	21.30	.215	539	540	541	550	551	552	561	562	555	
790	22.80	.242	547	548	549	559	560		570	571	563	564
850	25.50	.290	556	557	558	565	566	569	578	579	572	
950	28.50	.344	565	566	567	573	577		587	588	580	
1050	31.30	.394	573	574	575	576	577	586	595	596	589	
1150	34.50	.451	581	582	583	584	585		604	605	597	
1250	37.50	.505	590	591	592	593	594	603	612	613	614	
1350	40.50	.558	598	599	600	601	602		621	622	623	
1500	45.00	.638	607	608	609	610	611	620	630	631	632	
1700	51.00	.746	615	616	617	618	619	629	638	639	640	
1900	57.00	.853	624	625	626	627	628					
2040	61.20	.928	633	634	635		636	637				
TANK BASE			501								502	
STING CAVITY												

$f_T = 1865 \text{ IN. FULL SCALE}$
 $55.950 \text{ IN. MODEL SCALE}$

data in datasets RB1TXX

TABLE IX. - SRM PRESSURE ORIFICE LOCATIONS

LEFT SRM

SRM STATION ~ X _s			Ø ~ DEG.							
FULL SCALE	MODEL SCALE	X _s Y _s	0	45	90	135	180	225	270	315
200	6.00	0	805	807	808	809	810	811	812	813
260	7.80	.034	806	815	816	817	818	819	820	821
370	11.10	.098	814	823	824	825	826	827	828	828
400	12.00	.115	822	830	831	832	833	834	835	836
450	13.50	.144	829	838	839	840	841	842	843	844
550	16.50	.201	837		846		847	848	849	850
700	21.00	.287	845		852		853		854	
850	25.50	.373	851		856		857			
1050	31.50	.488	855		859		860			
1250	37.50	.603	858		862		863		864	
1450	43.50	.718	861		866		867		868	
1650	49.50	.833	865		871	872	873	874	875	876
1750	52.50	.890	869	870	879	880	881	882	883	884
1796	53.88	.917	877	878	887	888	889	890	891	892
1835	55.05	.939	885	886	895	896	897	898	899	900
1868	56.04	.958	893	894		803		804		
SKIRT BASE			802							
NOZZLE BASE			801							
NOZZLE EXTERNAL PRESSURES										
1850	55.50	.948	901	902	903	904	905	906	907	908
1905	57.15	.979	909	910	911	912	913	914	915	916
1923	57.84	.993	917	918	919	920	921	922	923	924

l_S = 1741 IN. FULL SCALE
52.53 IN. MODEL SCALE

data in datasets RB1SXX

TABLE X. - ORBITER ATTACH POINT PRESSURE ORIFICE LOCATIONS

ORBITER ATTACH POINT ORIFICE LOCATIONS																	
	FULL X _o SCALE	347	357	367	377	387	397	407	1252	1262	1272	1282	1292	1302	1312	1322	1332
	X _o MODEL	10.41	10.71	11.01	11.31	11.61	11.91	12.21	37.56	37.86	38.16	38.46	38.76	39.06	39.36	39.96	40.26
	X _o /ρ _o	.087	.095	.102	.110	.118	.126	.133	.788	.796	.804	.811	.819	.827	.835	.850	.858
η	F.S. MODEL Y _o	394	397					412				436	447		468	474	480
.021 10	.50		396	399	403	407	411	415				435	446	457	467	473	479
.043 20	.60		395	398	402	406	410	414				434	445	456	466	472	478
.064 30	.90				401	405	409	413				433	444	455	465	471	477
.085 40	1.20											432	443	454	464	470	476
.107 50	1.50															469	475
.149 69.75	2.09											431	442	453	463		
.170 79.75	2.39										424	430	441	452	462		
.192 89.75	2.69									419	423	429	440	451	461		
.213 99.75	2.99								416	418	422	428					
.234 109.75	3.29									417	421	427	439	450	460		
.256 119.75	3.59										420	426	438	449	459		
.277 129.75	3.89											425	437	448	458		

data in datasets RB11XX

TABLE XI. - EXTERNAL TANK ATTACH POINT PRESSURE ORIFICE LOCATIONS

X _T Full Scale	1103	1093	1083	1073	1063	1053	1043	
X _T Model Scale	33.09	32.79	32.49	32.19	31.89	31.59	31.29	
X _T /l _T	.424	.419	.417	.408	.402	.397	.391	
								Ø DEG.
FWD ATTACH POINT (ORBITER TO E-T)	684	676	668	660				182.84
	685	677	669	661				186.38
	686	678	670	662	655			189.92
	687	679	671	663	656	652		193.46
	688	680			657	653	651	197.0
	689	681	673	665	658	654		200.54
	690	682	674	666	659			204.08
	691	683	675	667				207.62

data in datasets RB12XX

TABLE XI. - EXTERNAL TANK ATTACH POINT PRESSURE ORIFICE LOCATIONS
(CONTINUED)

FWD DRAG LINK ATTACH POINT	X_T FULL SCALE	1874	1864	1854	1844	1834	1824	1814	
	X_T MODEL SCALE	56.22	55.92	55.62	55.32	55.02	54.72	54.42	
	X_T/l_T	.839	.834	.828	.823	.818	.812	.807	
									$\theta \sim$ DEG.
		719	713	707					222.84
		720	714	708	701				226.38
		721	715	709	702	696			229.92
		722		710	703	697	693		233.46
					704	698	694	692	237.00
						699	695		240.54
		723	718	712	706	700			244.08

data in datasets RB12XX

TABLE XI. - EXTERNAL TANK ATTACH POINT PRESSURE ORIFICE LOCATIONS

(CONCLUDED)

	X_T FULL SCALE	2078	2068	2058	2048	2038	2028	2018	
	X_T MODEL SCALE	62.34	62.04	61.74	61.44	61.14	60.84	60.54	
	X_T/\bar{x}_T	.948	.943	.938	.932	.927	.921	.916	
									$\emptyset \sim \text{DEG.}$
AFT UPPER ATTACH		777	766	754					234.04
		778	767	755	742				237.58
		779	768	756	743	732			241.12
		780	769		744	733	726		244.66
		781	770		745	734	727	724	248.2
					746	735	728		251.74
			771	759	747	736			255.28
		782	772	760					323.51
AFT LOWER ATTACH		783	773	761	748				327.05
		784	774	762	749	737			330.59
		785	775		750	738	729		334.13
		786	776		751	739	730	725	337.67
					752	740	731		341.21
				765	753	741			344.75

data in datasets RB12XX

Notes

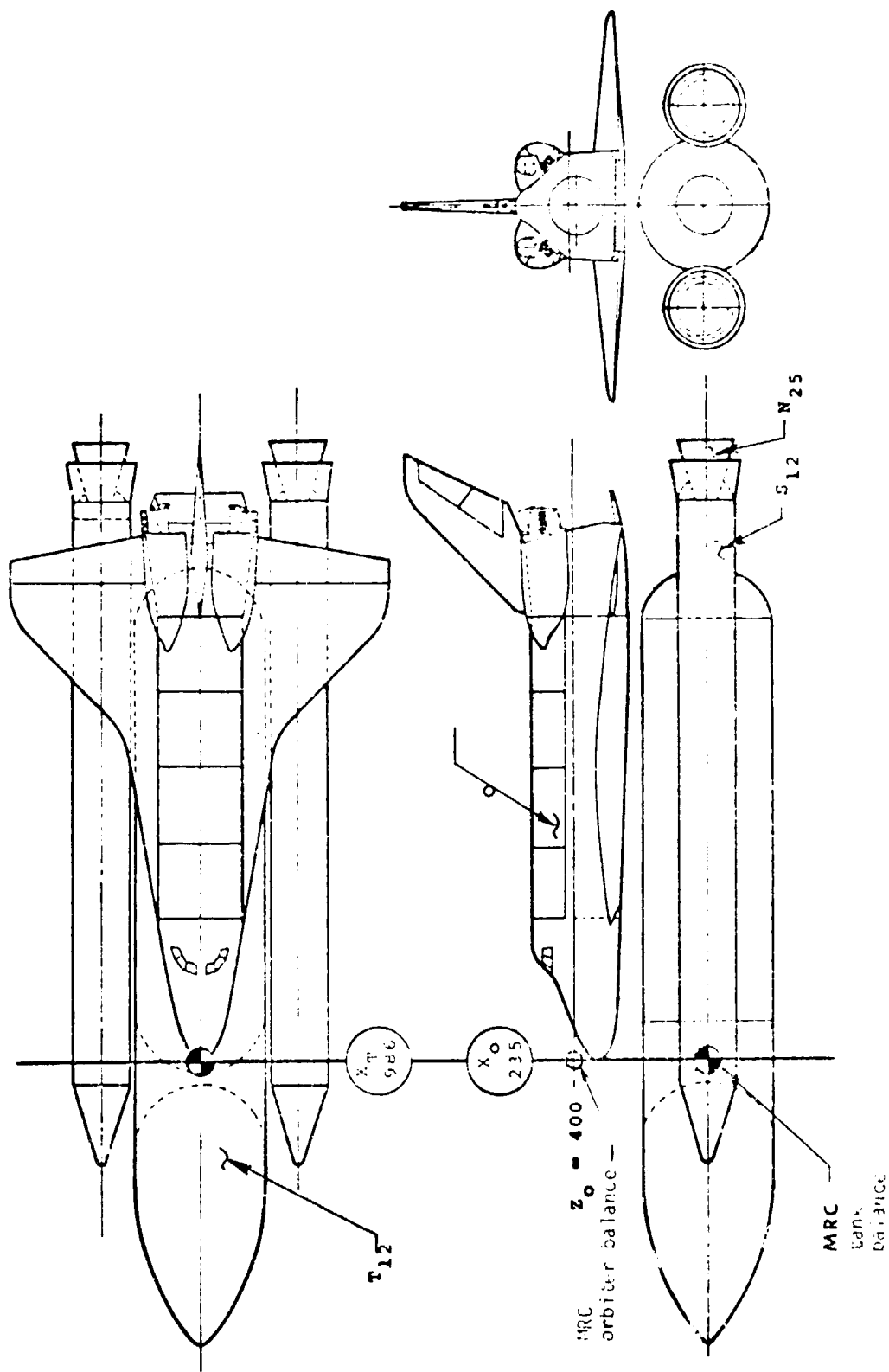
1. Positive directions of force coefficients, moment coefficients, and angles are indicated by arrows
2. For clarity, origins of wind and stability axes have been displaced from the center of gravity

57

1. Positive directions of force coefficients, moment coefficients, and angles are indicated by arrows
2. For clarity, origins of wind and stability axes have been displaced from the center of gravity

Figure 1. - Axis Systems

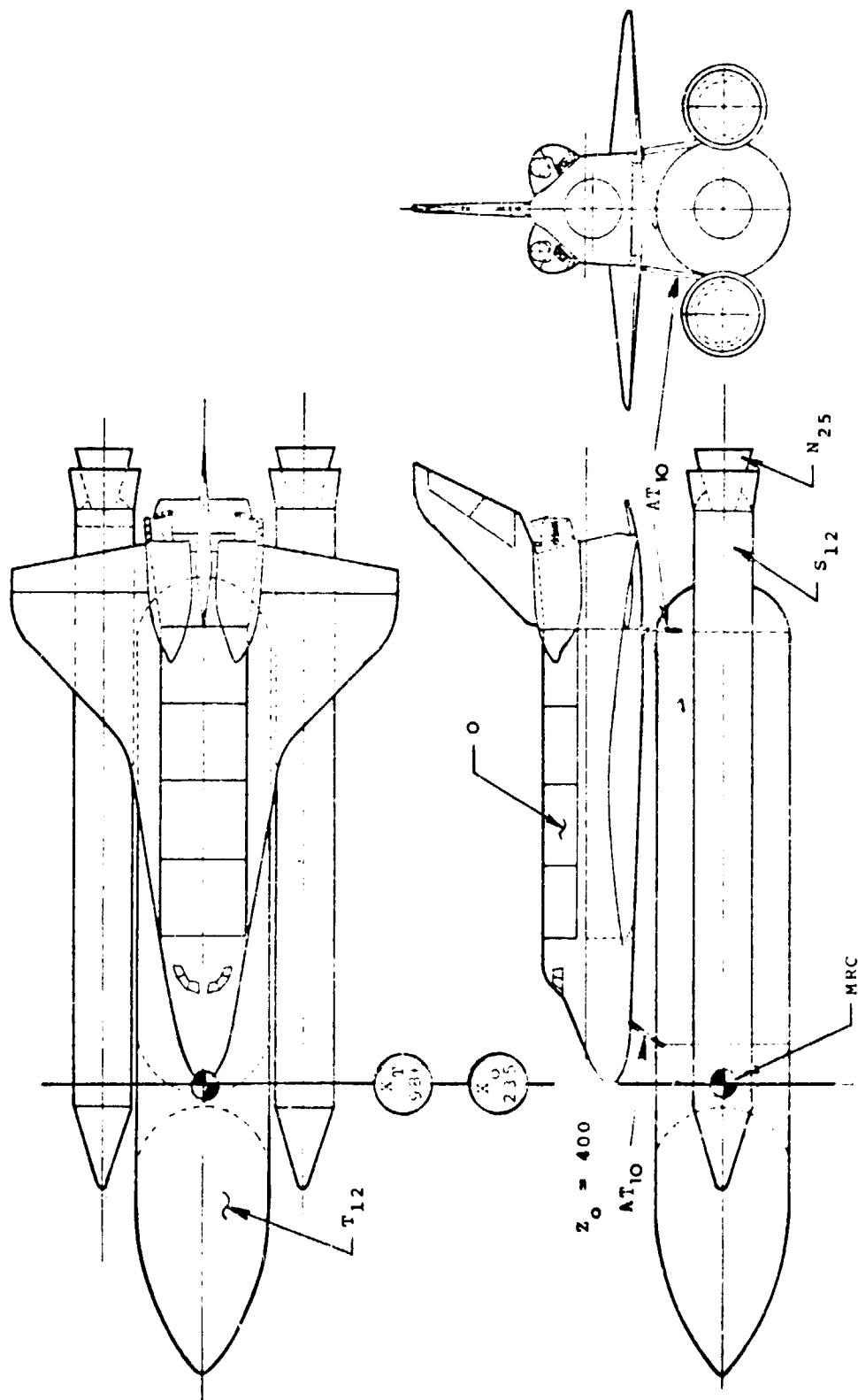
LV



a. Integrated vehicle - 2 balances, no attach structure

Figure 2. - Model Sketches

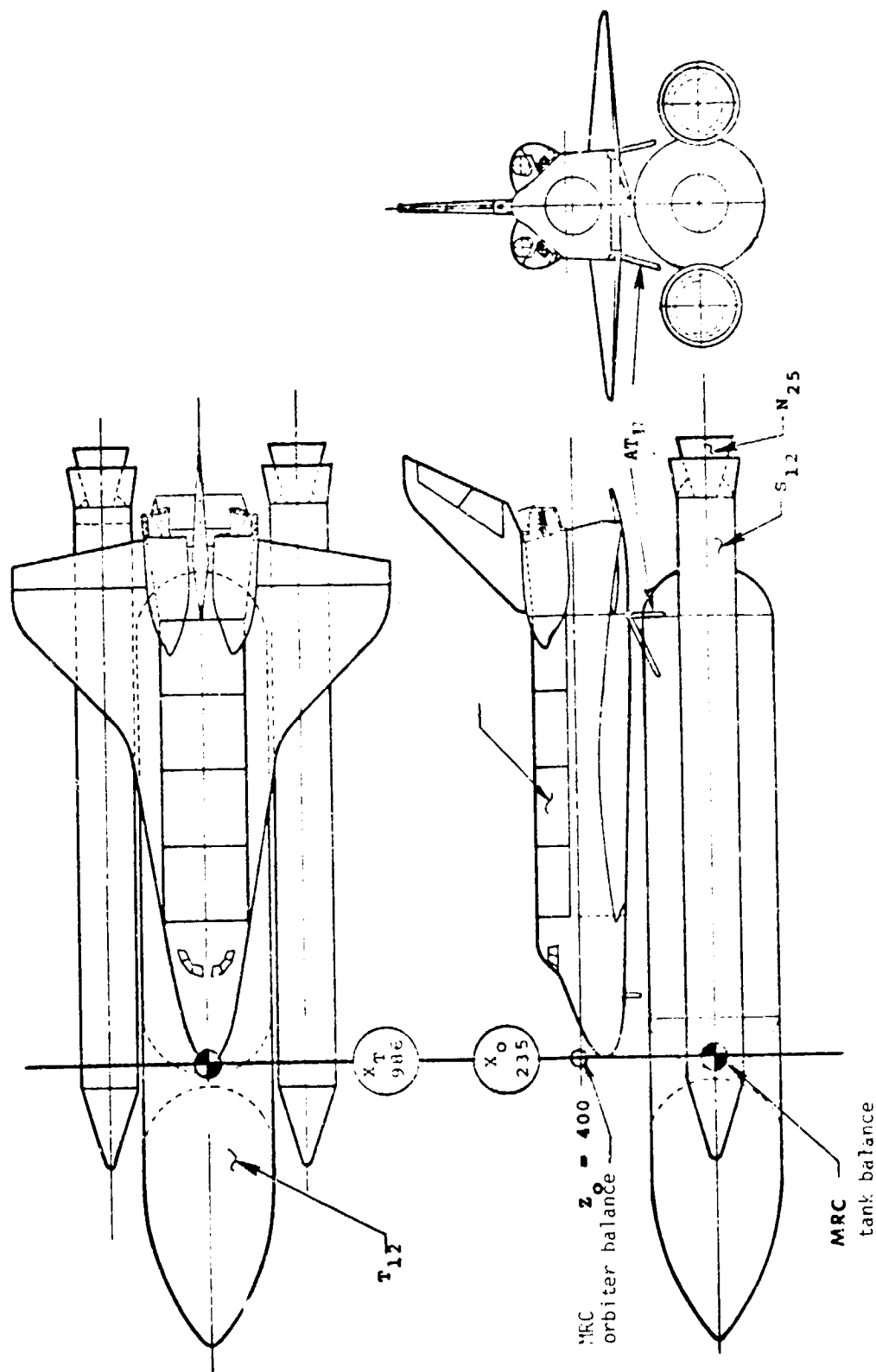
LVAP



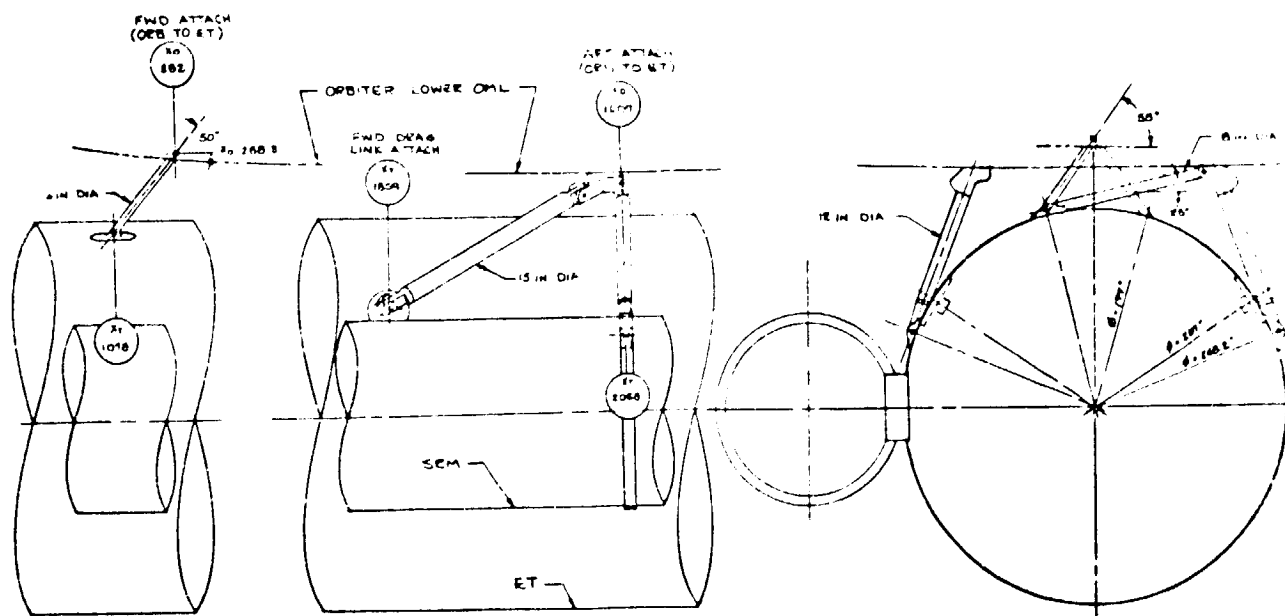
b. Integrated vehicle - 1 balance with attach structure

Figure 2. - Continued

LVAP

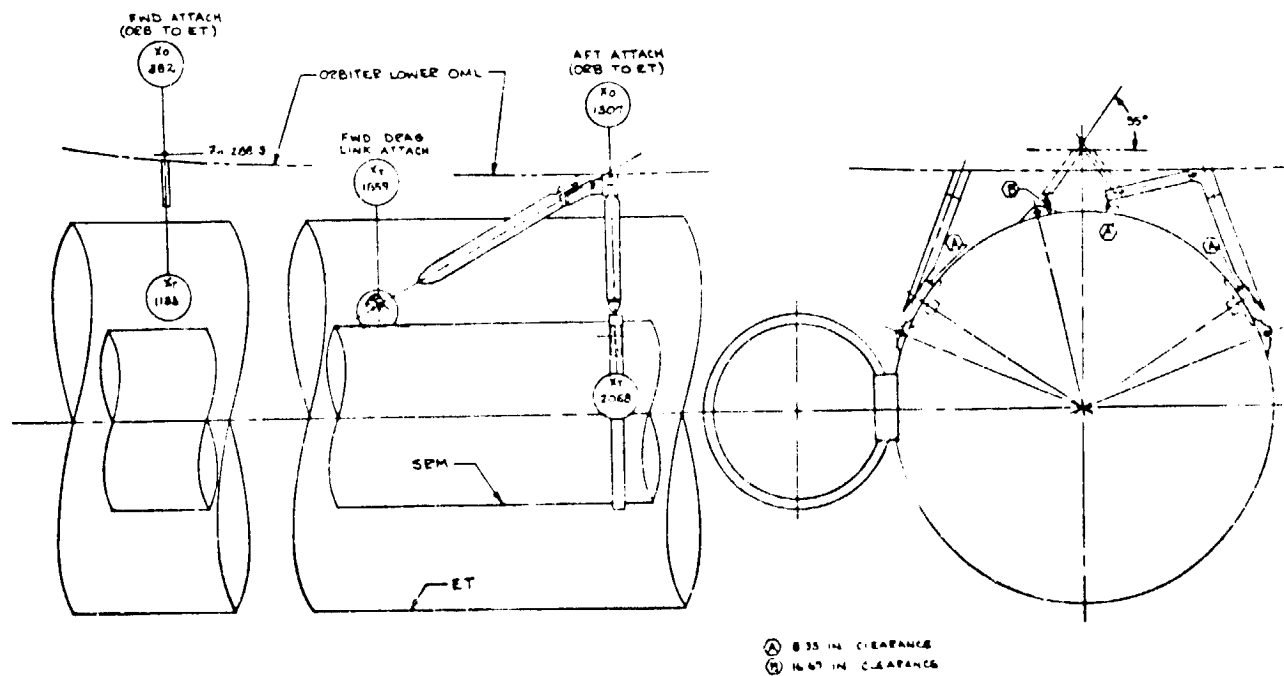


c. Integrated vehicle - 2 balances with attach structure
Figure 2. - Continued



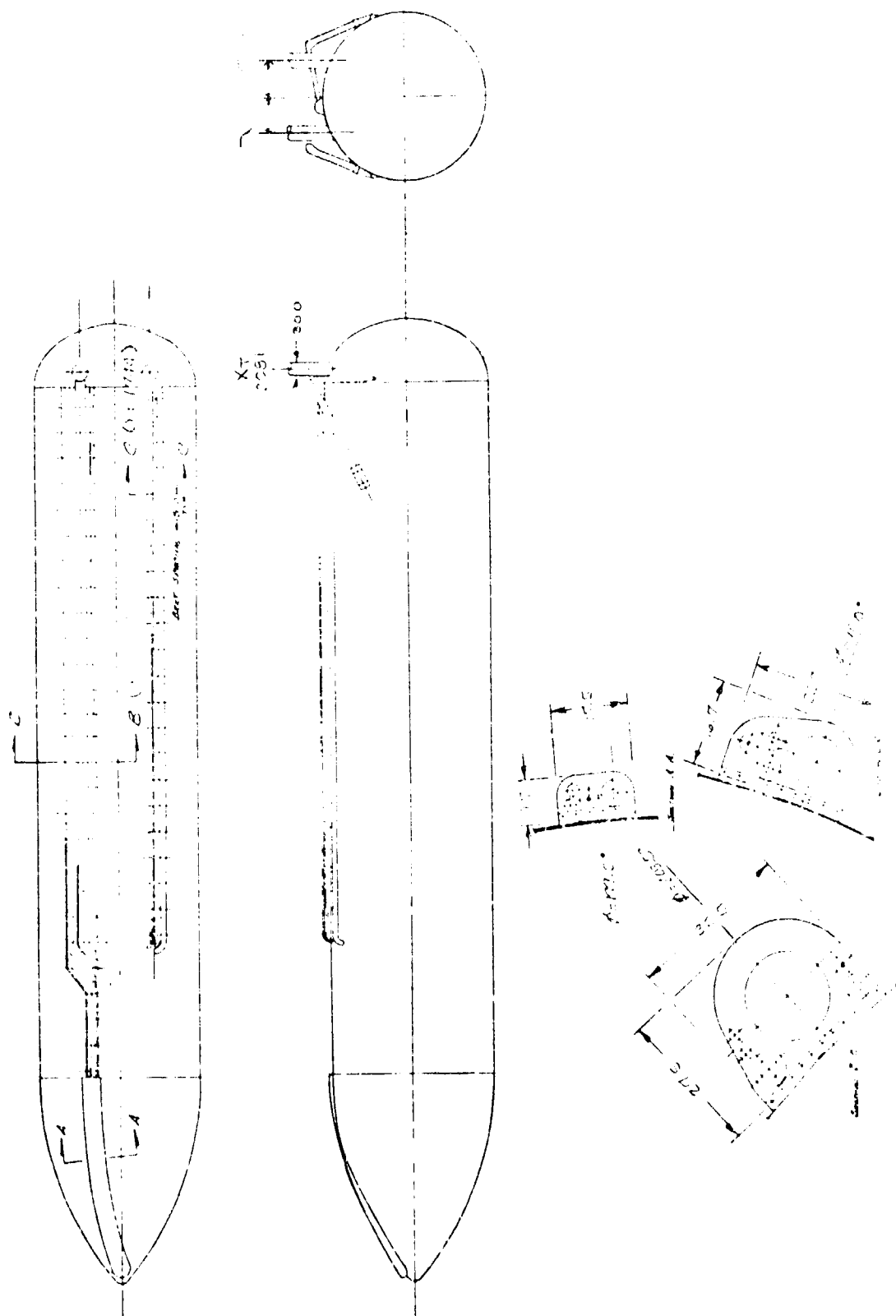
ATTACH HARDWARE CONFIGURATION - AT10

ATTACH HARDWARE CONFIGURATION - AT11



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e. Attach hardware
Figure 2. Continued

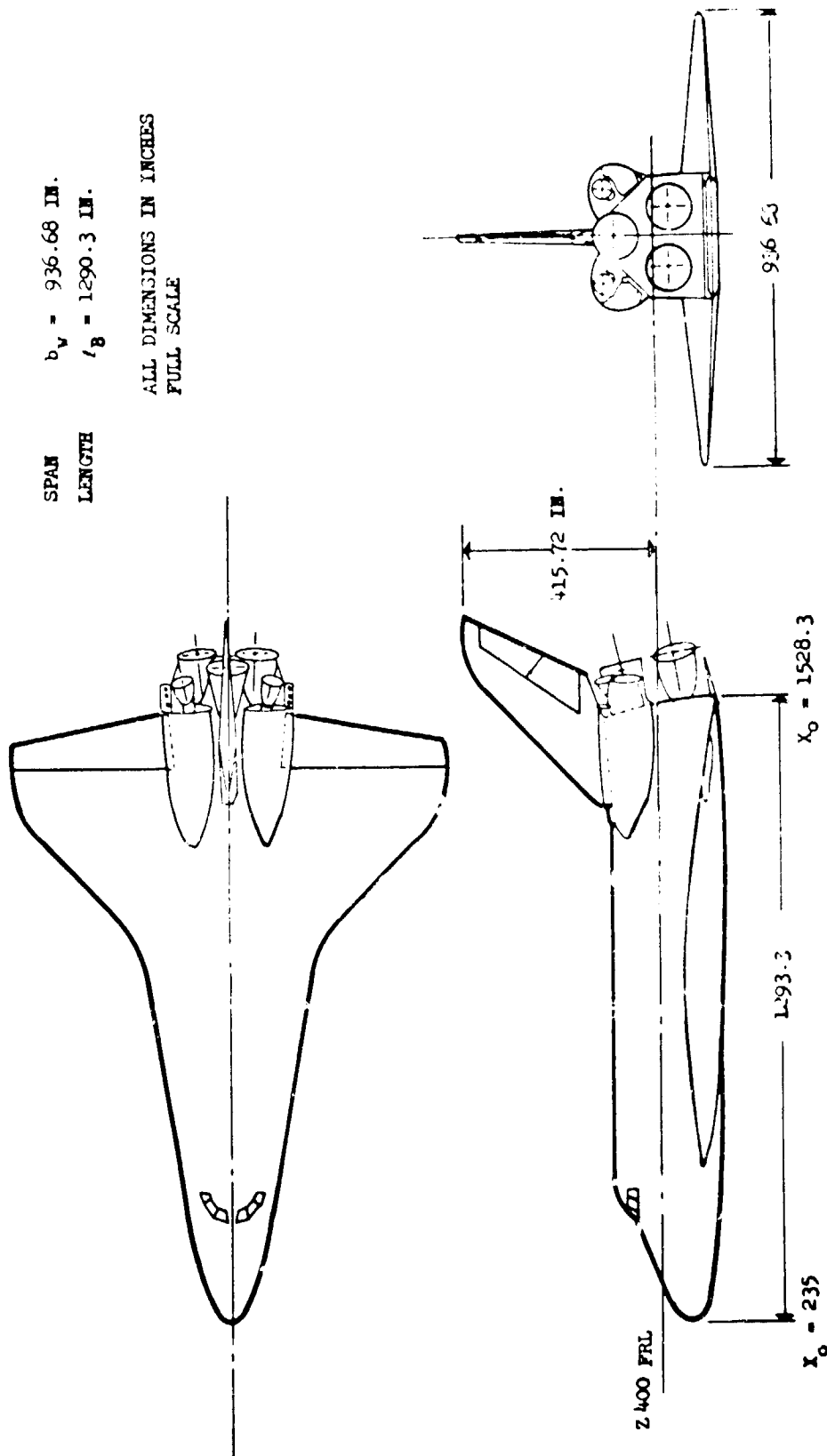


f. External tank protuberances

REFERENCE	DIMENSIONS (FS)
AREA	$S_v = 2690 \text{ FT}^2$
MAC	$C = 474.8 \text{ IN.}$

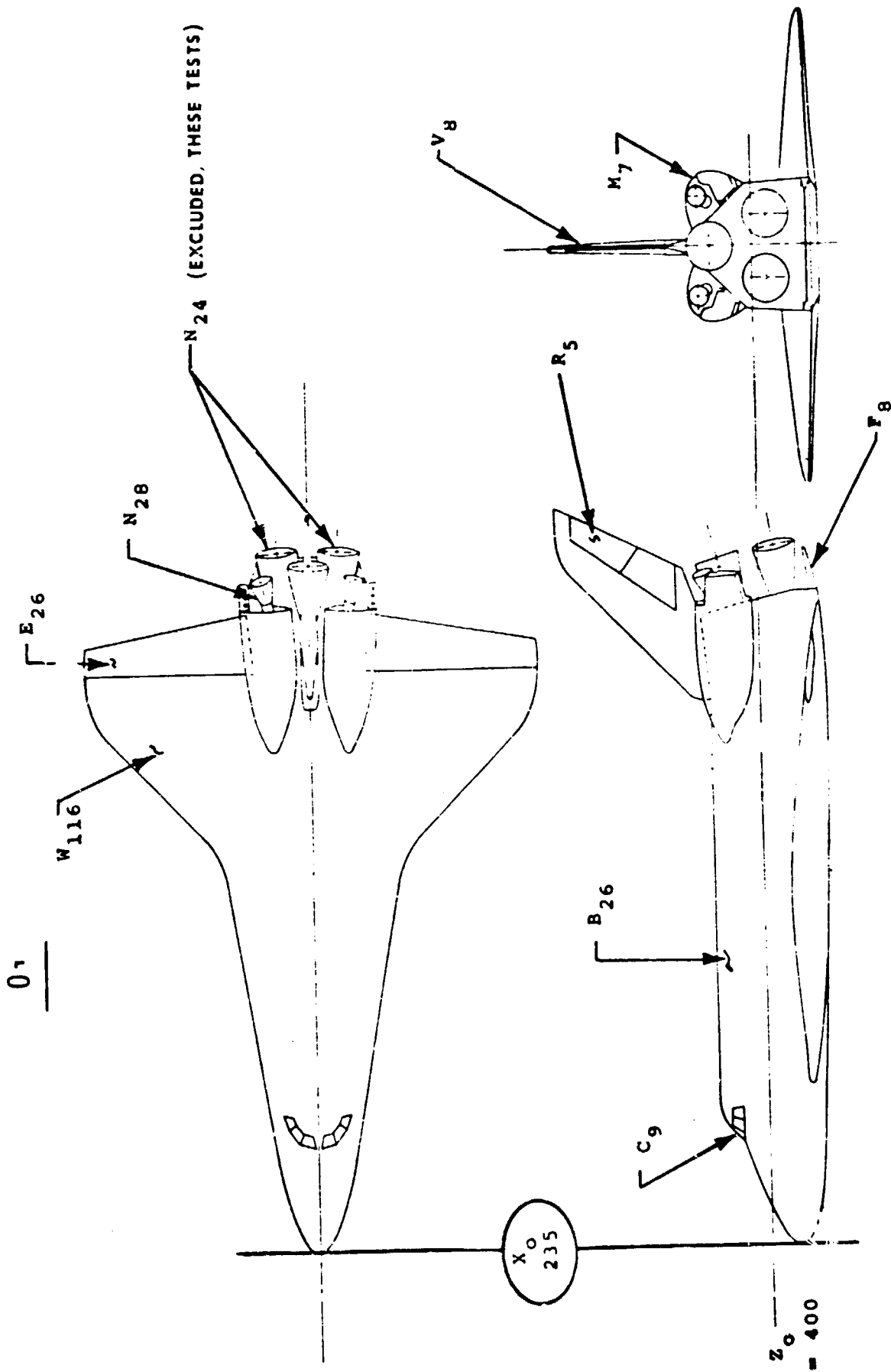
SPAN	$b_v = 936.68 \text{ IN.}$
LENGTH	$l_B = 1290.3 \text{ IN.}$

ALL DIMENSIONS IN INCHES
FULL SCALE



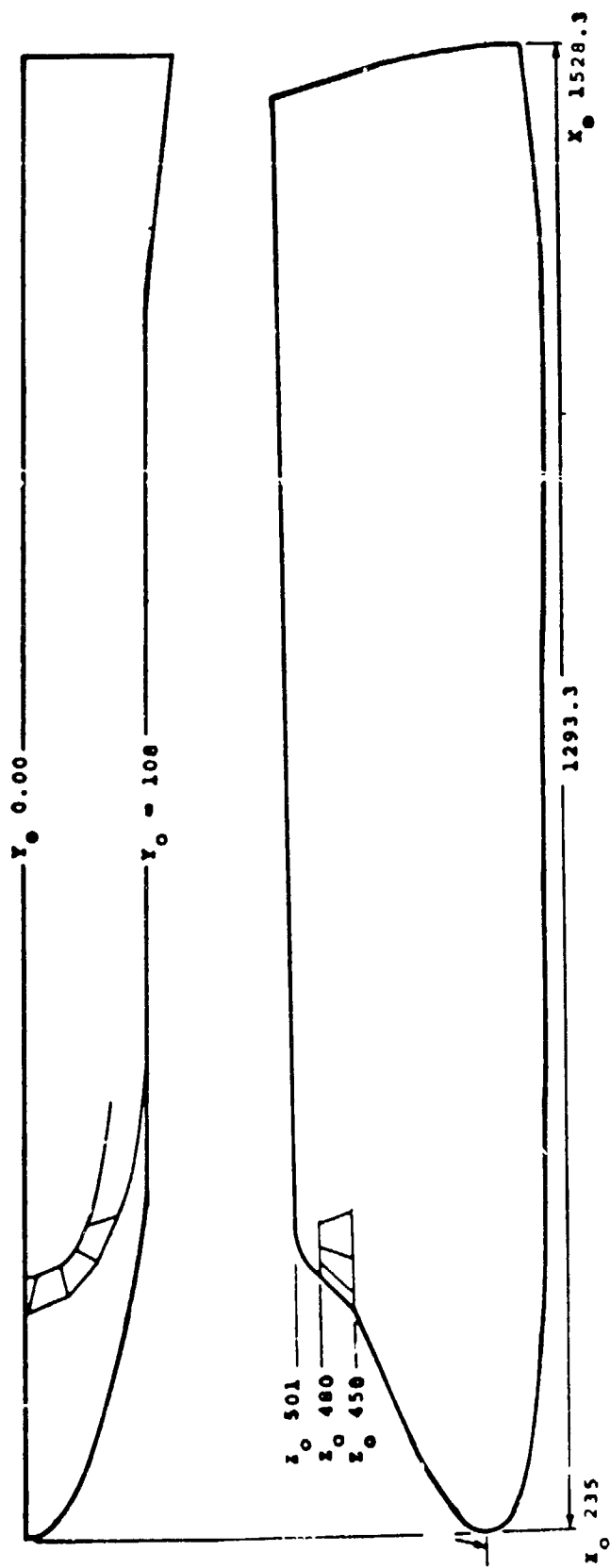
g. SSV orbiter configuration 140A/B

Figure 2. - Continued



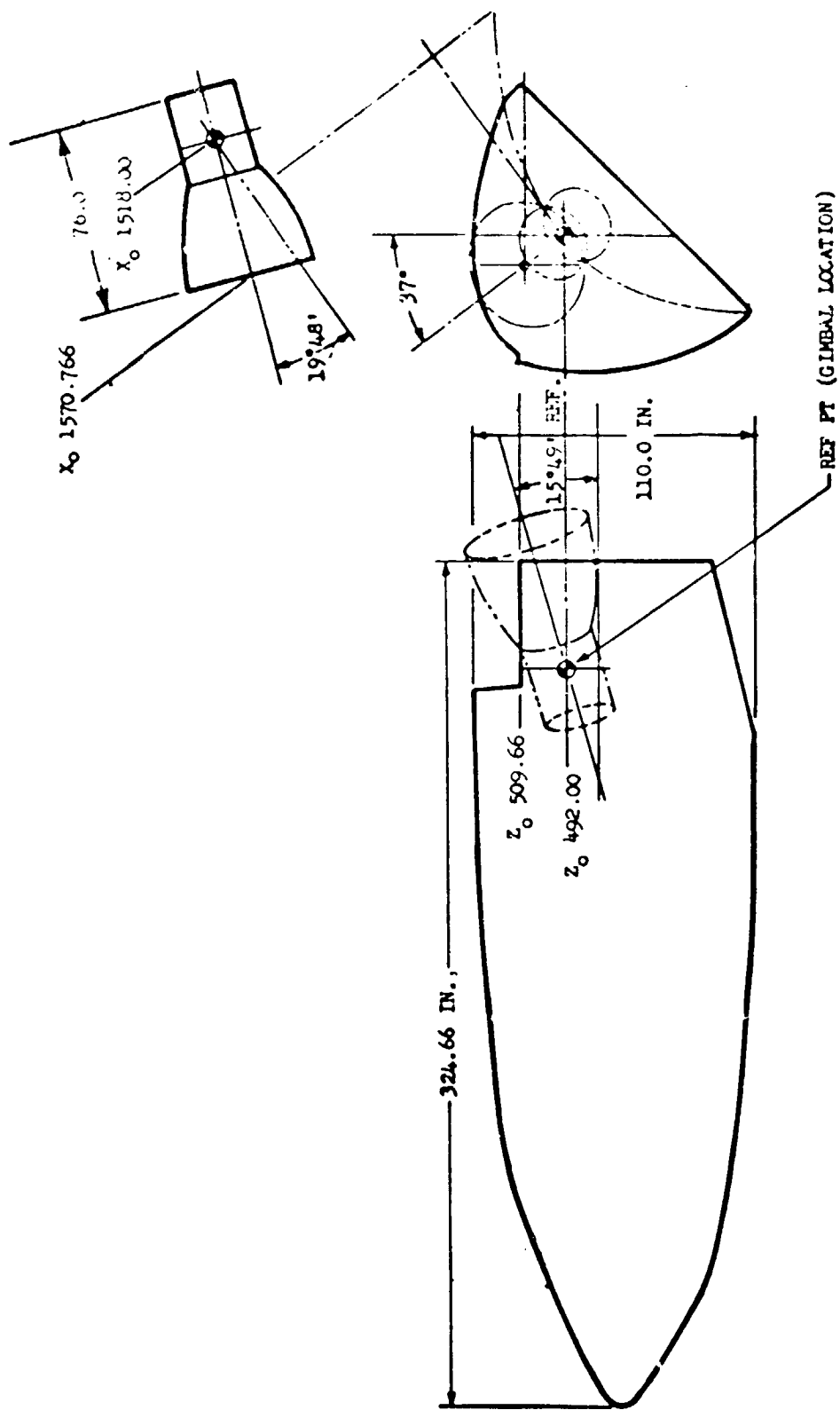
h. Orbiter nomenclature

Figure 2. - Continued

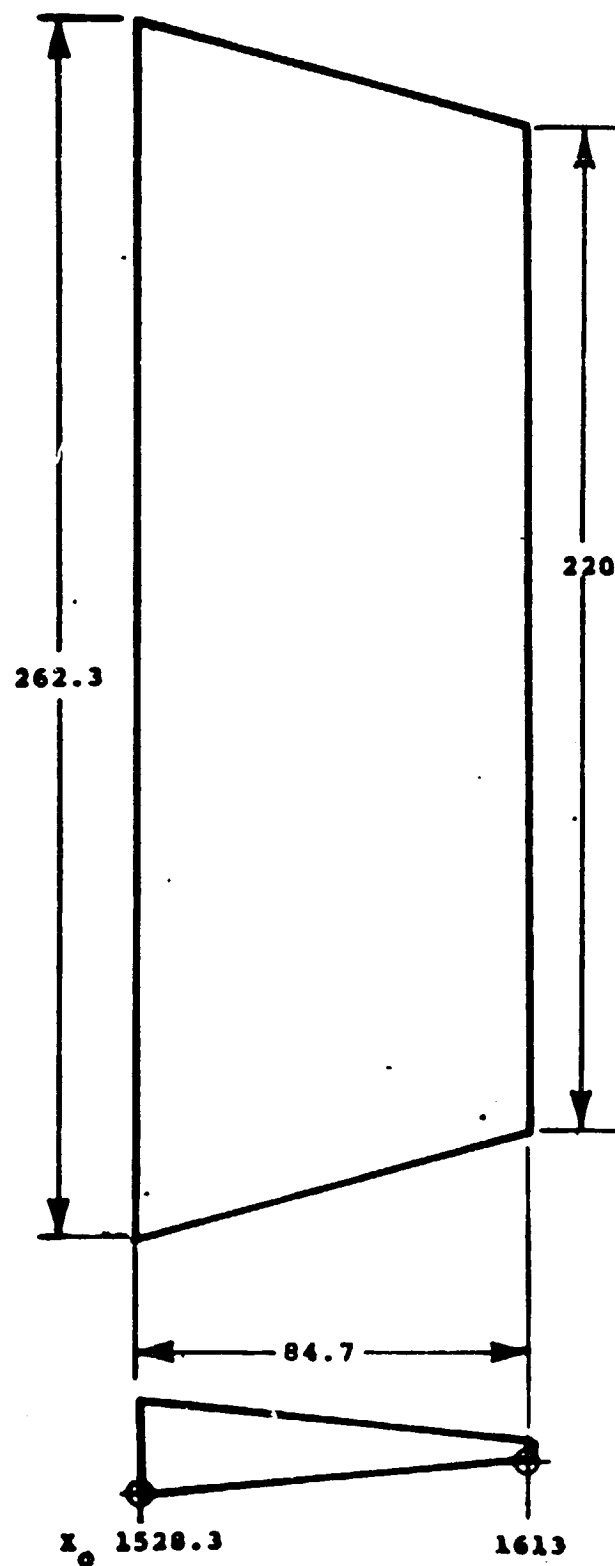


i. Canopy, C_g , and body, B_{26} , lines drawing VL70-00193 and VL70-000140A/B

Figure 2. - Continued

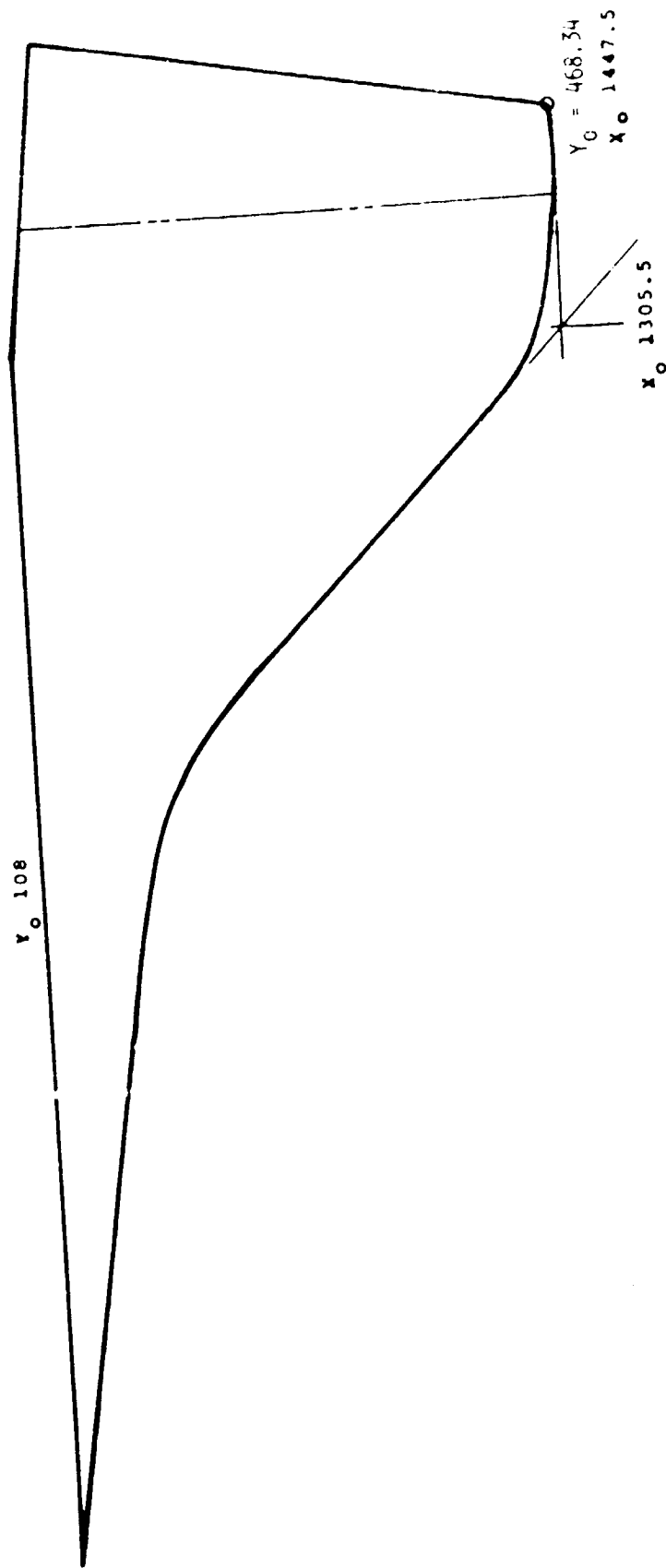


j. M₇ - OMS Pod
Figure 2. - Continued



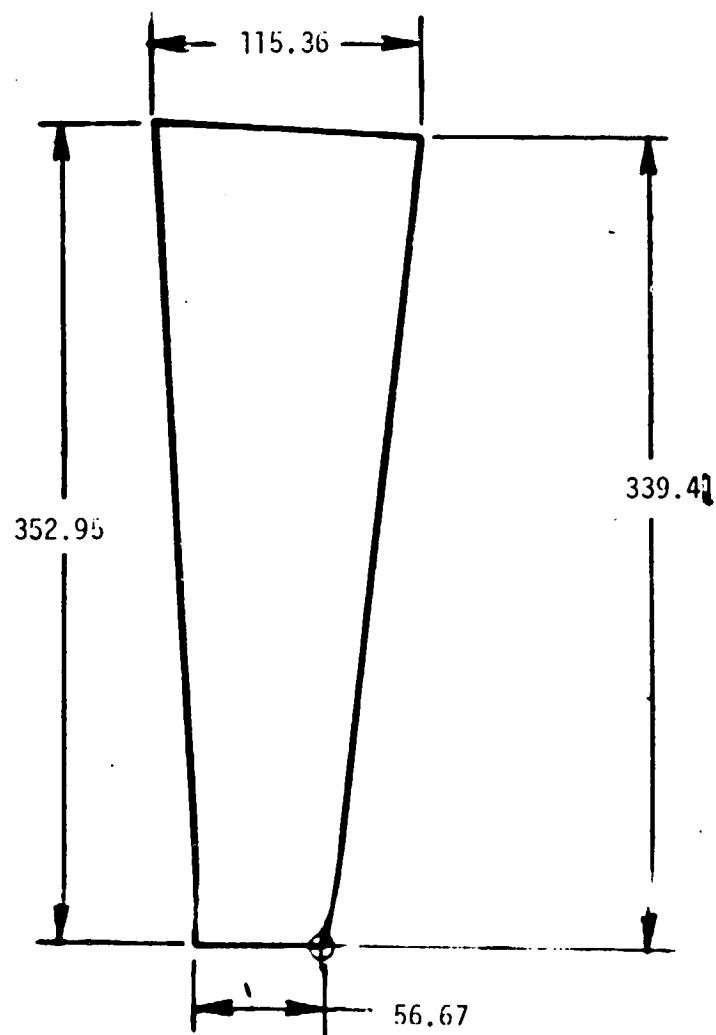
k. Body flap, F_8 , lines drawing no. VL70-000140A/B

Figure 2. - Continued



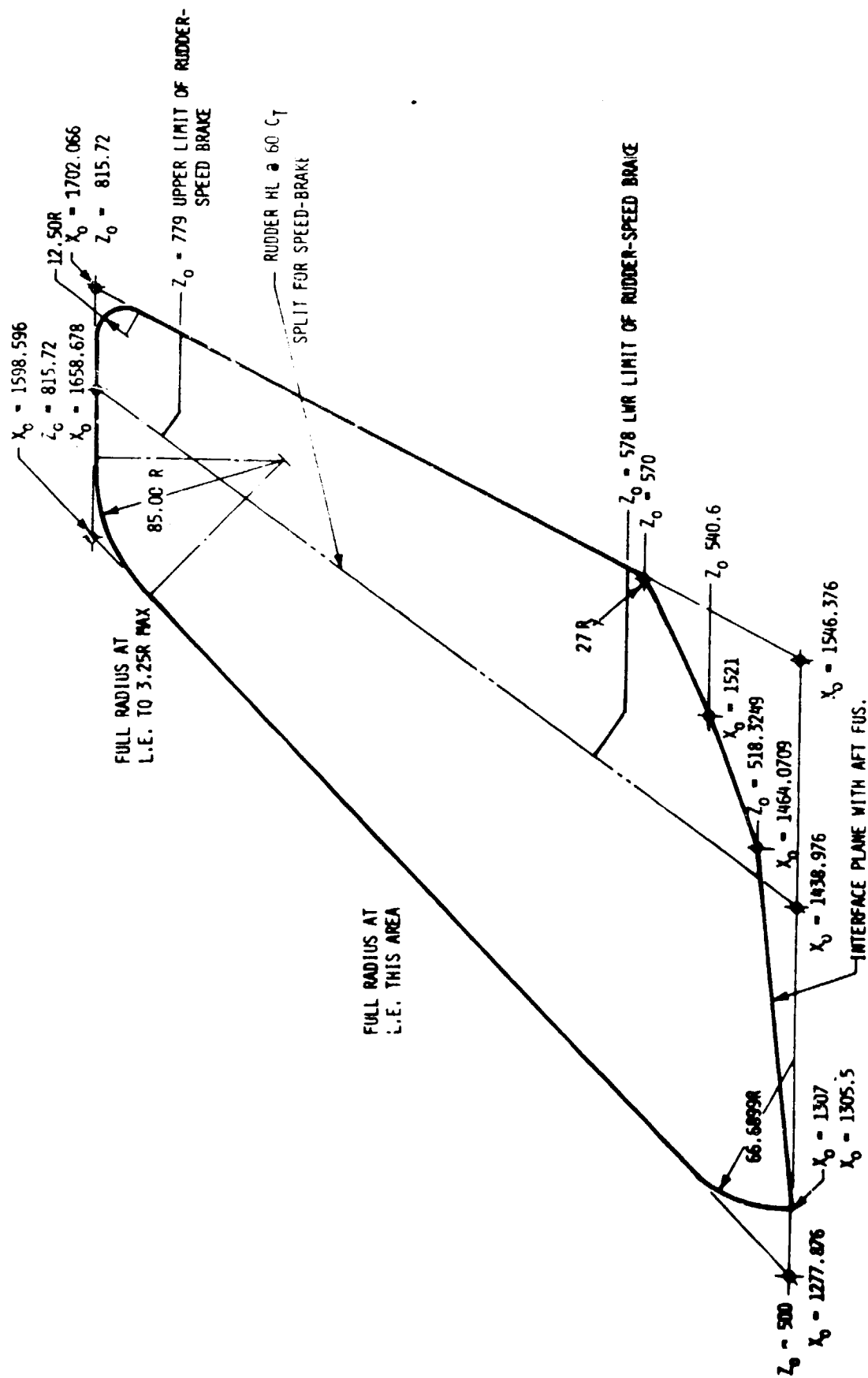
1. Wing, W₁₁₆, lines drawing no. VL70-000200

Figure 2. - Continued



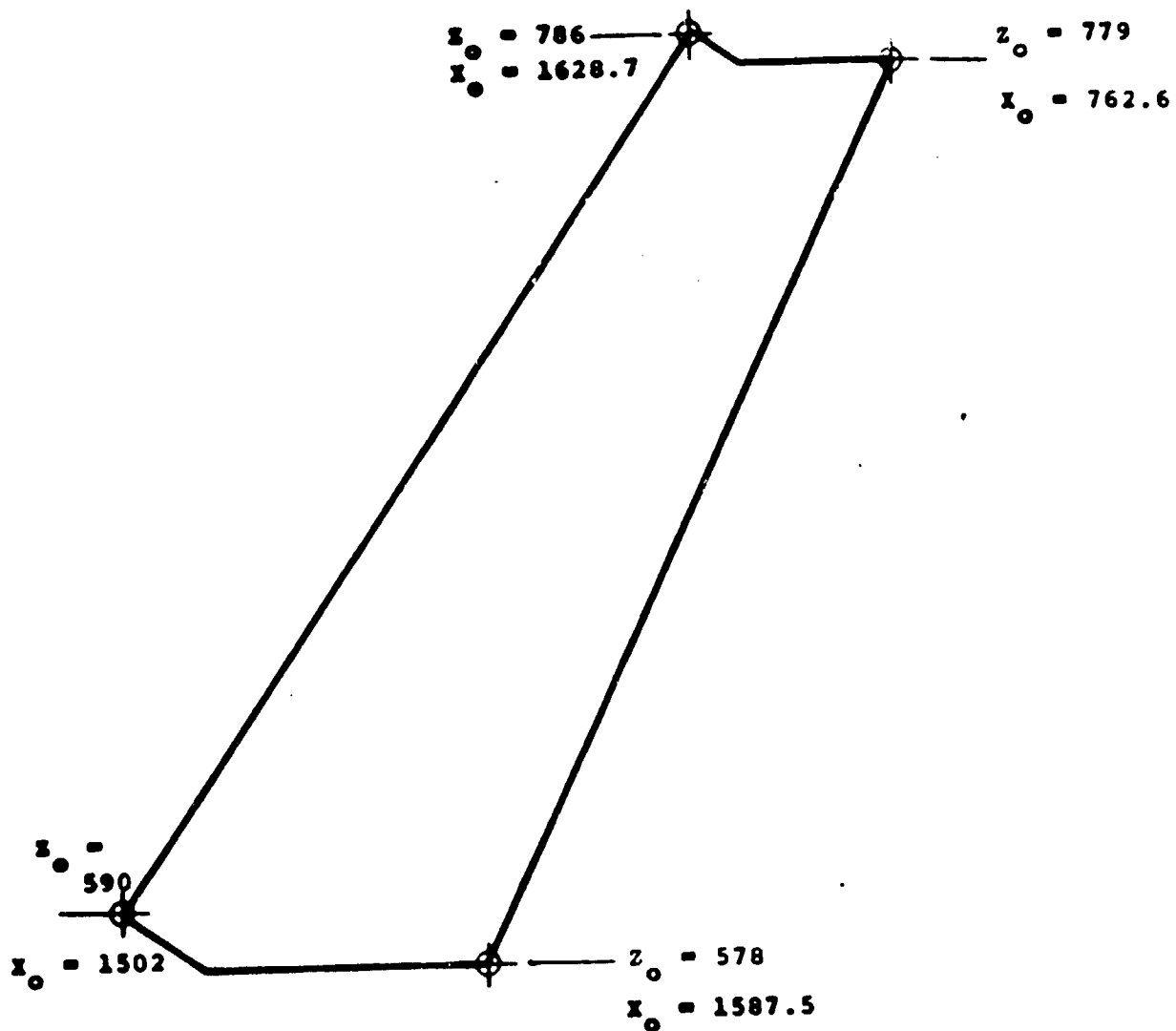
m. Elevcn, E₂₆, lines drawing no. VL70-000200, VL70-000140A/B

Figure 2. - Continued

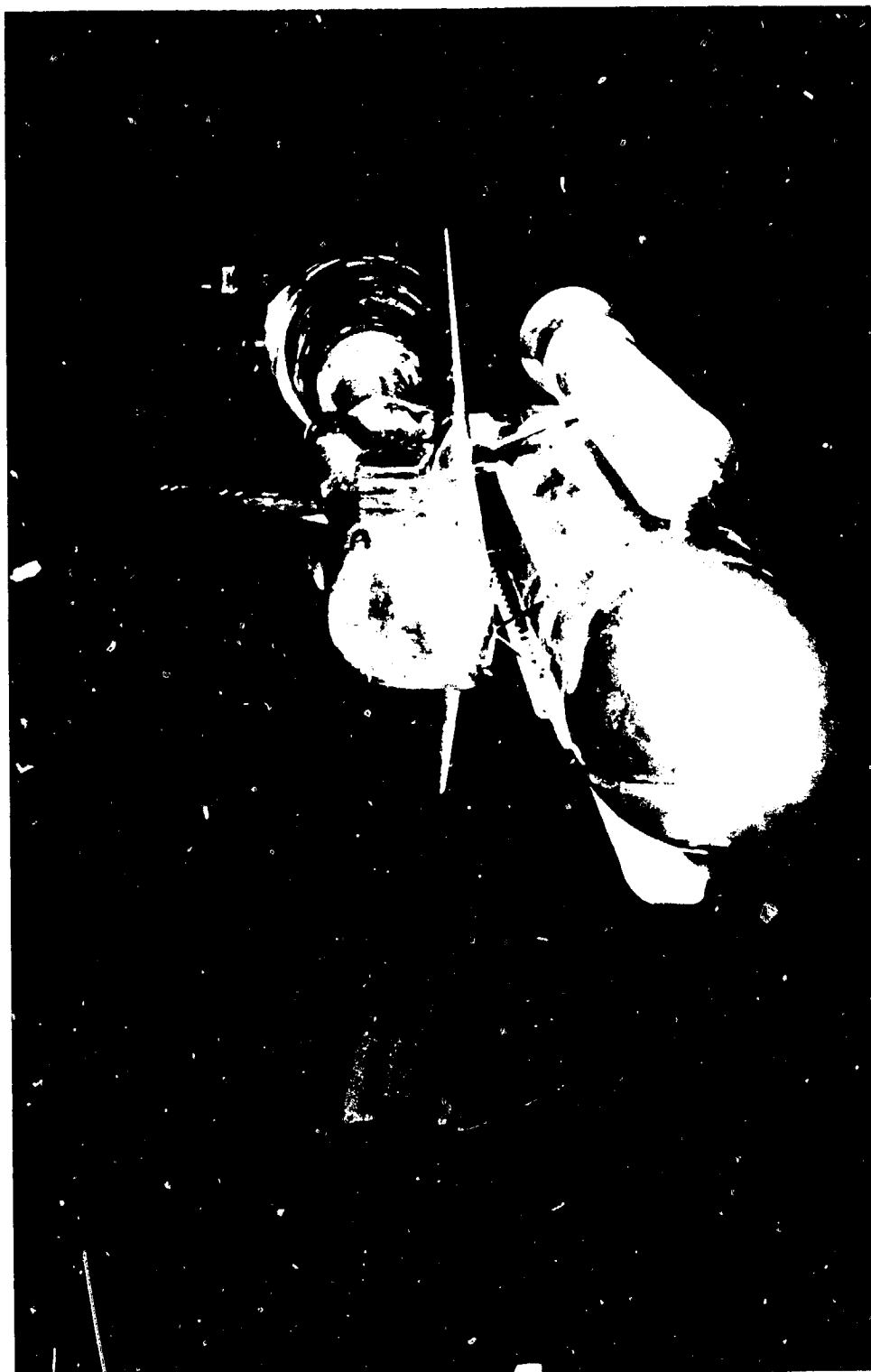


n. Vertical tail, V_8 , and rudder, R_5 , lines drawing no. VL70-000146A

Figure 2. - Continued



o. Rudder, R5, lines drawing no. VL70-000095
 Figure 2. - Concluded



a. Front view of model installed in tunnel

Figure 1 - Model photograph



b. Rear view of model installed in tunnel

Figure 3. - Concluded.

DATA FIGURES

AMES 11-716 1A14A 01+112+S12N25+AT11 (TANK+SRM) (RB1117)

SYMBOL
 .898
 .577
 1.102
 1.248

MACH
 .898
 .577
 1.102
 1.248

PARAMETRIC VALUES
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.709C
 BREF 38.709C
 XREF .0000
 YREF .0000
 ZREF 9.999C
 SCALE .0300

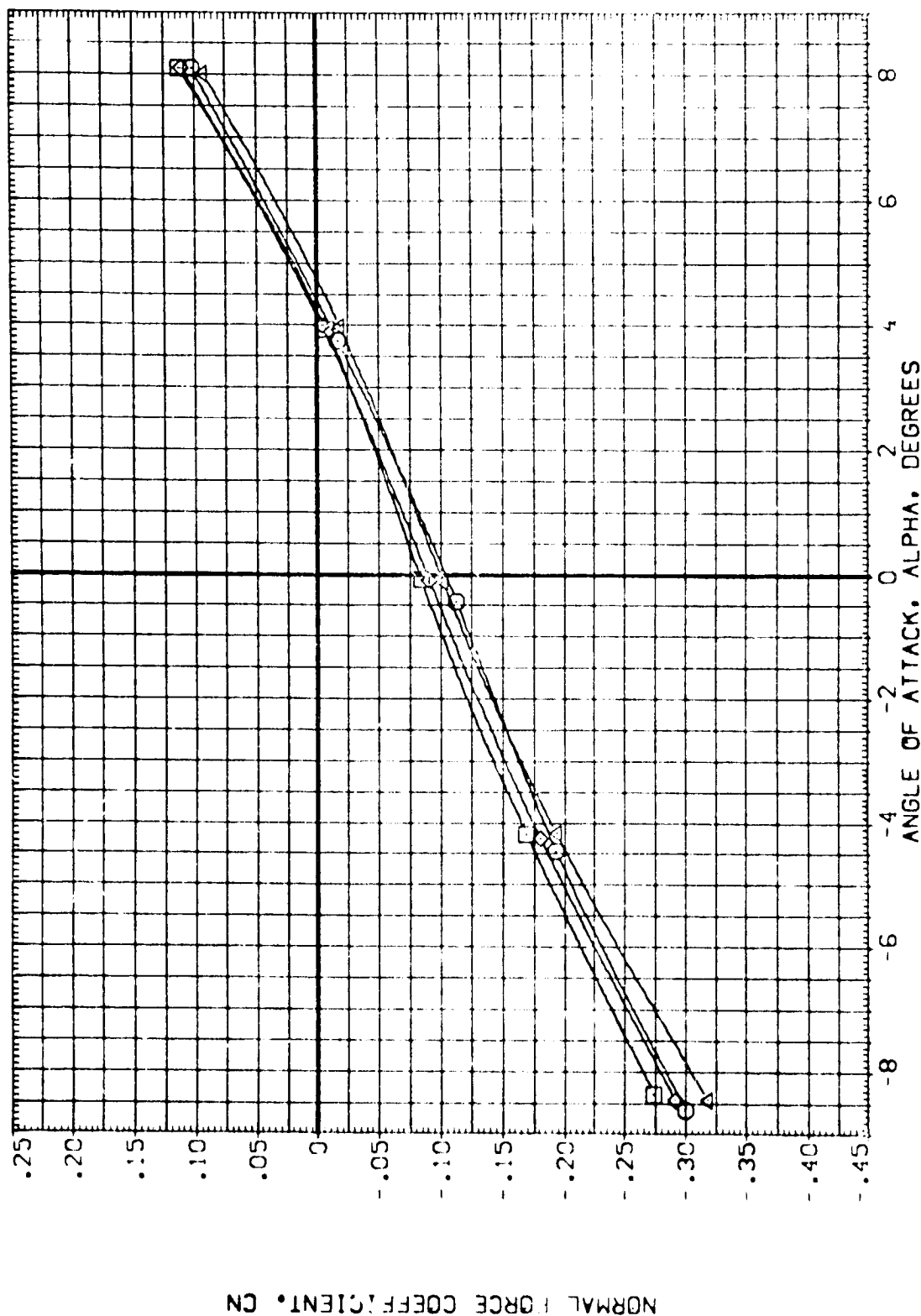


FIG. 1 LVAP (01 112 S12 N25 AT11) , BETA = 0 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (RB1117)

SYMBOL
◇ ○ □ △

MACH
.899
.977
1.102
1.248

BETA
RUDDER

PARAMETRIC VALUES
.000 ELEVON
.000 SPDGRK

.000
.000

REFERENCE INFORMATION
SREF 2.4210
LREF 38.7080
BREF 38.7080
XMRP .0000
YMRP .0000
ZMRP 9.0000
SCALE 10.000

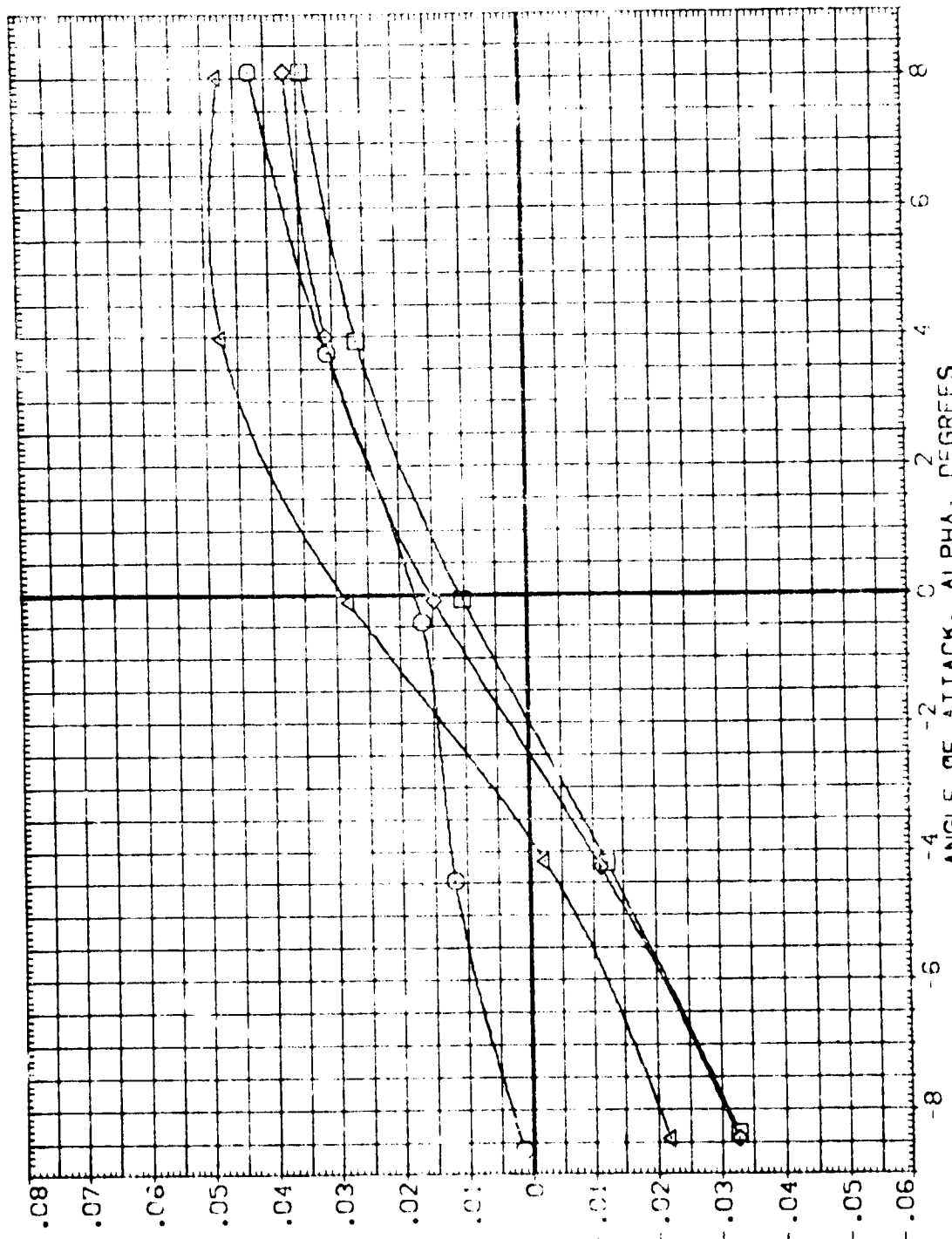


FIG. 1 LVAP (01 T12 S12 N25 AT11) • BETA = 0 (TANK + SRM BALANCE)

PAGE

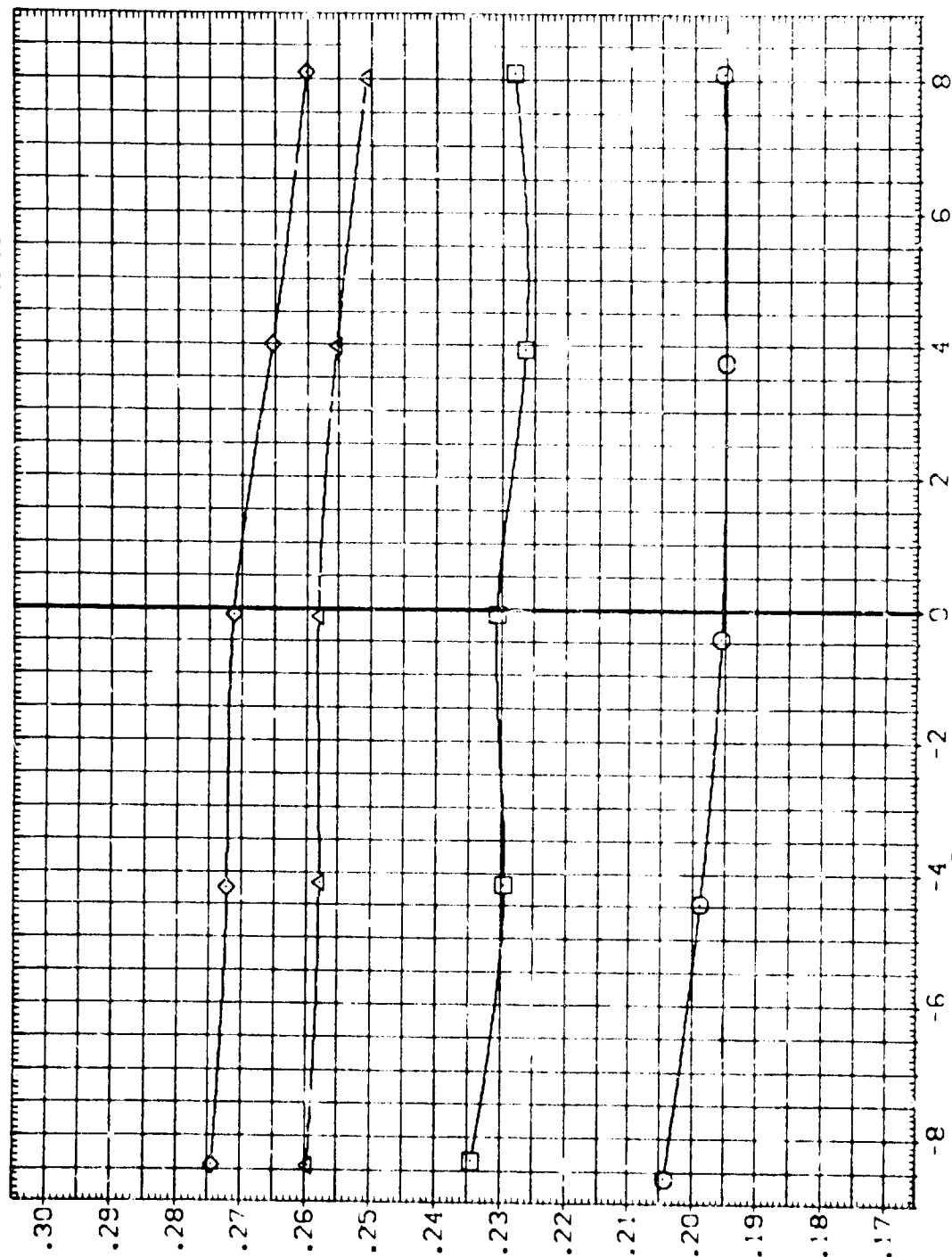
AMES 11-716 1A14A 01+112+S12N25+AT11 (TANK+SRM) (RB1117)

SYMBOL
 O
 X
 A
 S

MACH
 .898
 .977
 1.102
 1.248

PARAMETRIC VALUES
 BETA
 RUDDER
 ELEVON
 SPOILER
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.709C
 BREF 38.709C
 XMRD .0000
 YMRD .0000
 ZMRD 9.990C
 SCALE .0300



AXIAL FORCE COEFFICIENT, CA

FIG. 1 LVAP (01 112 S12 N25 AT11) , BETA = 0 (TANK + SRM BALANCE)

Symptoms

1.248
 1.102
 .977
 .898
 1.043

NETA
RJODER

PARAMETRIC VALUES	
ELEVON	.000
SPODBRK	.000

0000

REFERENCE INFORMATION	
SREF	2.4210
10CF	38.7090
33CF	38.7090
33SP	.0000
10SP	.0000
1000	9.9900
SCALE	0.300

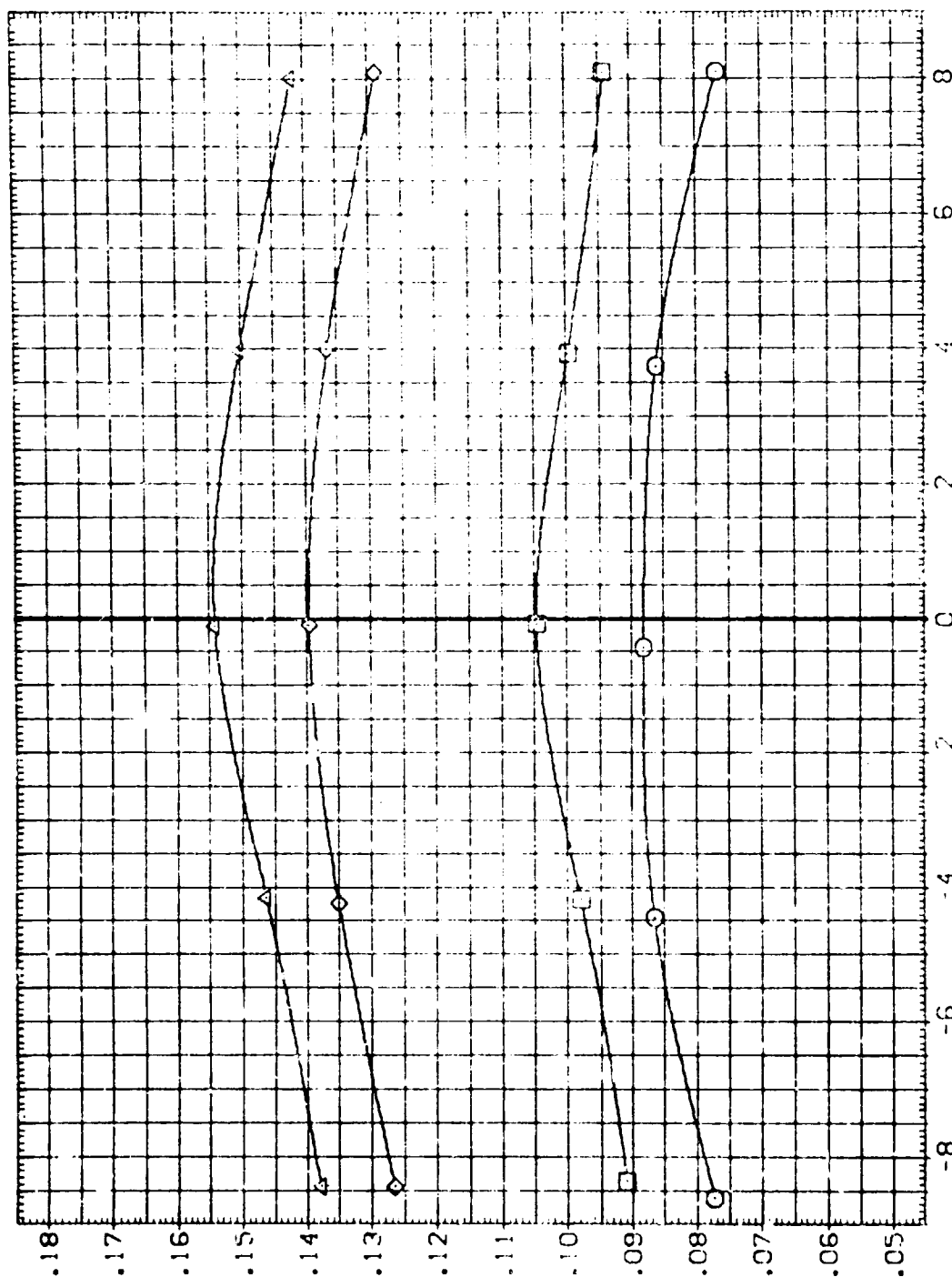


FIG. 1 LVAP (01 T12 S12 N25 AT11) . BETA = 0 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (RB1117)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	MACH	BETA	ELEVATION	SREF	2.4210	SQ.F.T.
○	.898	.000	.000	LREF	38.7090	IN.
◇	.977	.000	.000	BREF	38.7090	IN.
△	1.107	.000	.000	XMRP	.0000	IN.
▽	1.248	.000	.000	YMRP	.0000	IN.
				ZMRP	9.9300	IN.
				SCALE	.0300	

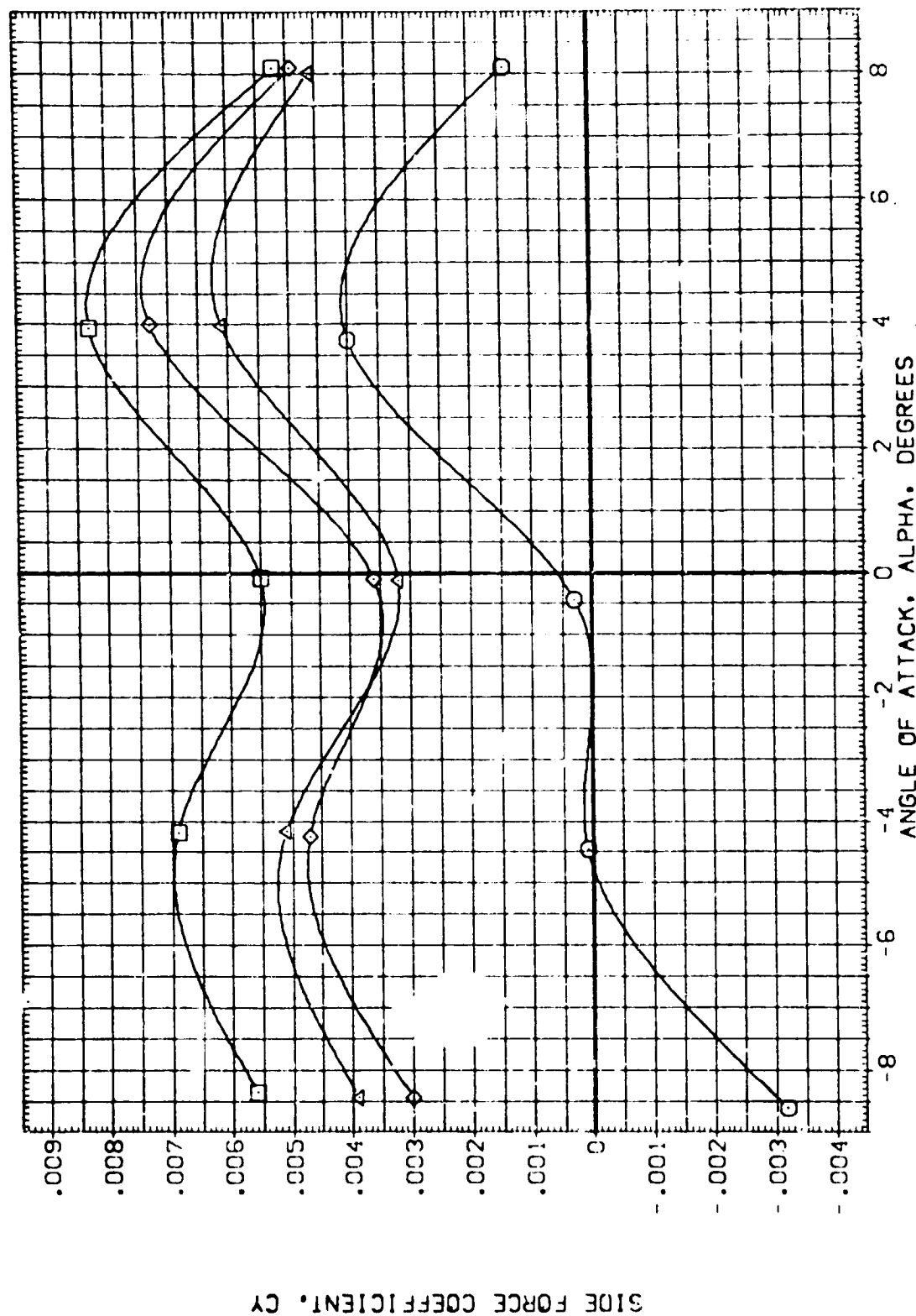


FIG. 1 LVAP (01 T12 S12 N25 AT11) , BETA = 0 (TANK + SRM BALANCE)

	REFERENCE INFORMATION	SQ.FT.
SREF	2.4210	
REF	38.7690	
REF	38.7690	
WFO	.0000	
WFO	.0000	
WFO	.0000	
SCF	9.9999	

SYMBOL	MACH	BETA	ELEVON	SPDRPX
◇	.898	.000		
◇	.977	.000		
◇	1.102			
◇	1.248			

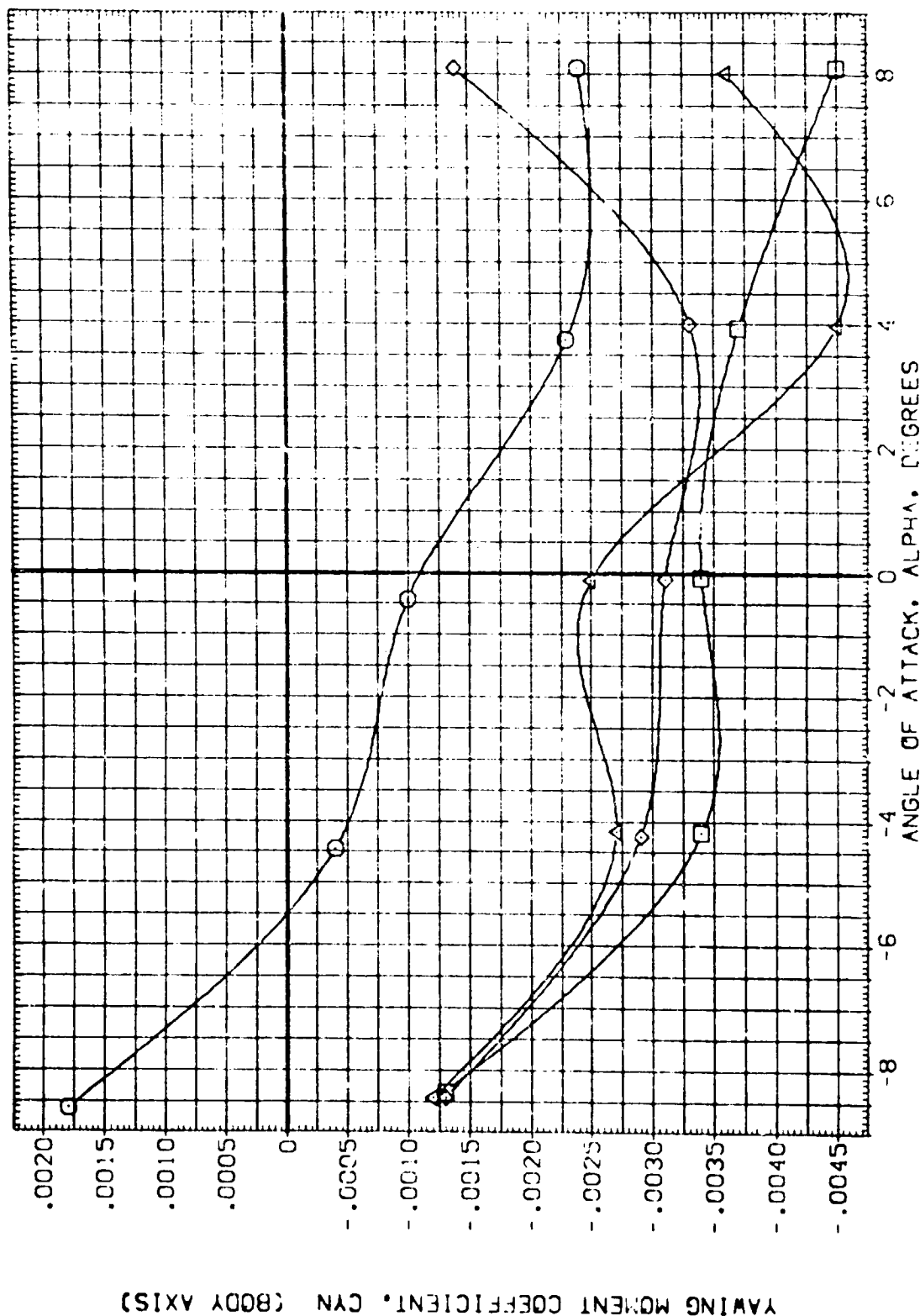


FIG. 1. LVAP (01 T12 S12 N25 AT11), BETA = 0 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (RB11:7)

SYMBOL	MACH	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
○	.898	.000	ELEVON	SREF 2.4210
□	.977	.000	SPDRK	LREF 38.7090
◇	1.102	.000		BREF 38.7090
△	1.248	.000		XMRP .0000
				VMRP .0000
				ZMRP 9.9900
				SCALE .0300

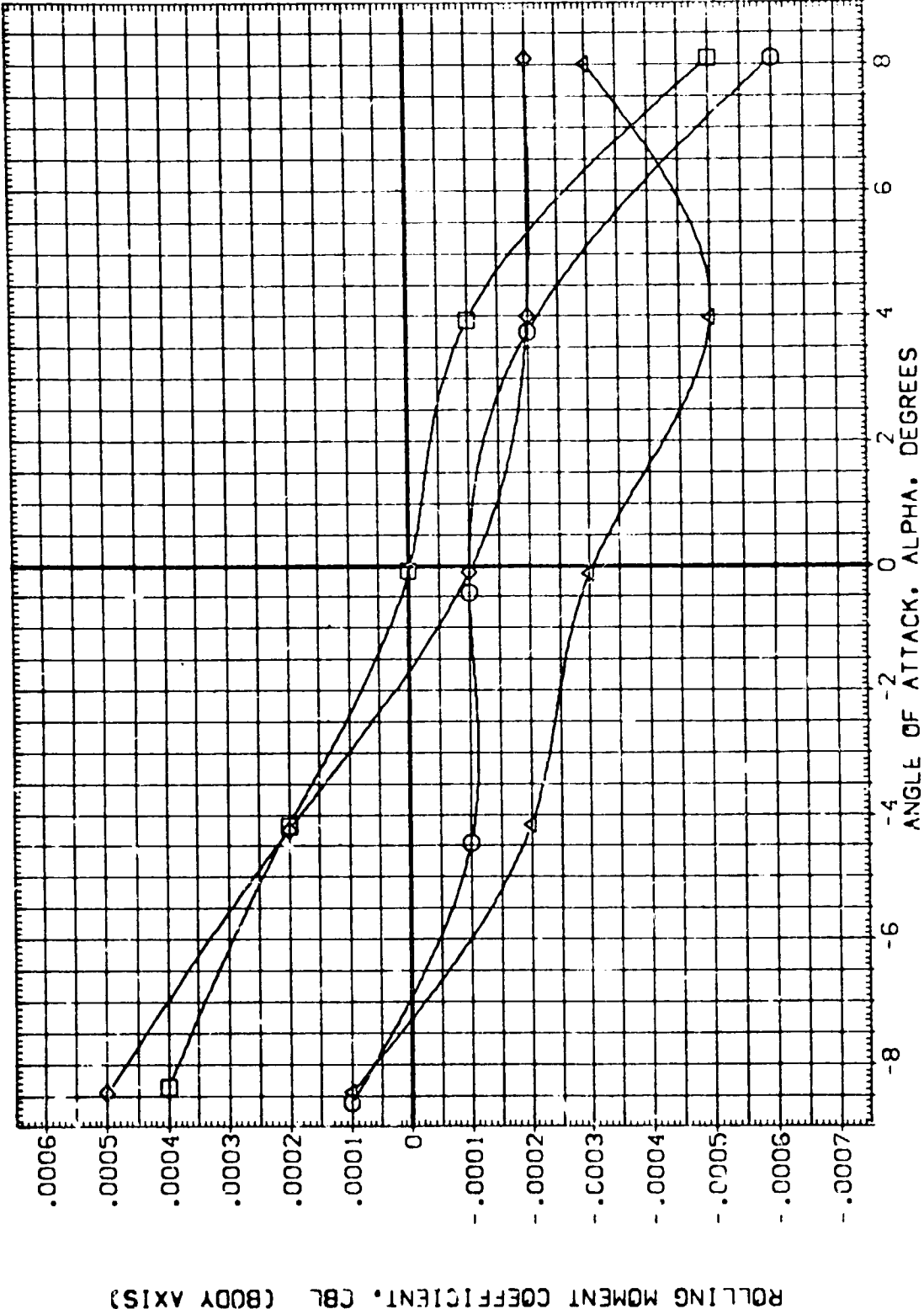


FIG. 1 LVAP (01 T12 S12 N25 AT11) . BETA = 0 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01,T12+S12N25+AT11 (TANK+SRM) (RB1118)

SYMBOL
○
◇
□

MACH
.698
.978
1.102
1.252

PARAMETRIC VALUES
ALPHA
ELEVON
SPDRM
.000
.000
.000
.000

REFERENCE INFORMATION
SREF 2.4210 SQ.FT.
LREF 38.7500 IN.
BREF 38.7500 IN.
VREF 1.0000 IN.
WREF 1.0000 IN.
ZREF 9.8600 IN.
SCALE .0300



FIG. 2 LVAP (01 T12 S12 N25 AT11) • ALPHA = 0 (TANK + SRM BALANCE)

AMES 11-716 [A14A 01.112-S12N25-AT1] (TANK+SRM) (R31118)

51480
00000
00000
00000

MACH
.698
.978
1.102
1.252

PARAMETRIC VALUES
ALPHA .000 ELEVON .000
RUDDER .000 SPEEDK .000

REFERENCE 115 ORMA1104
SREF 2.4210
DREF 38.7090
VREF 38.7090
WREF .0000
VREF .0000
WREF .0000
SCALE 9.0900
SCALE 10.300

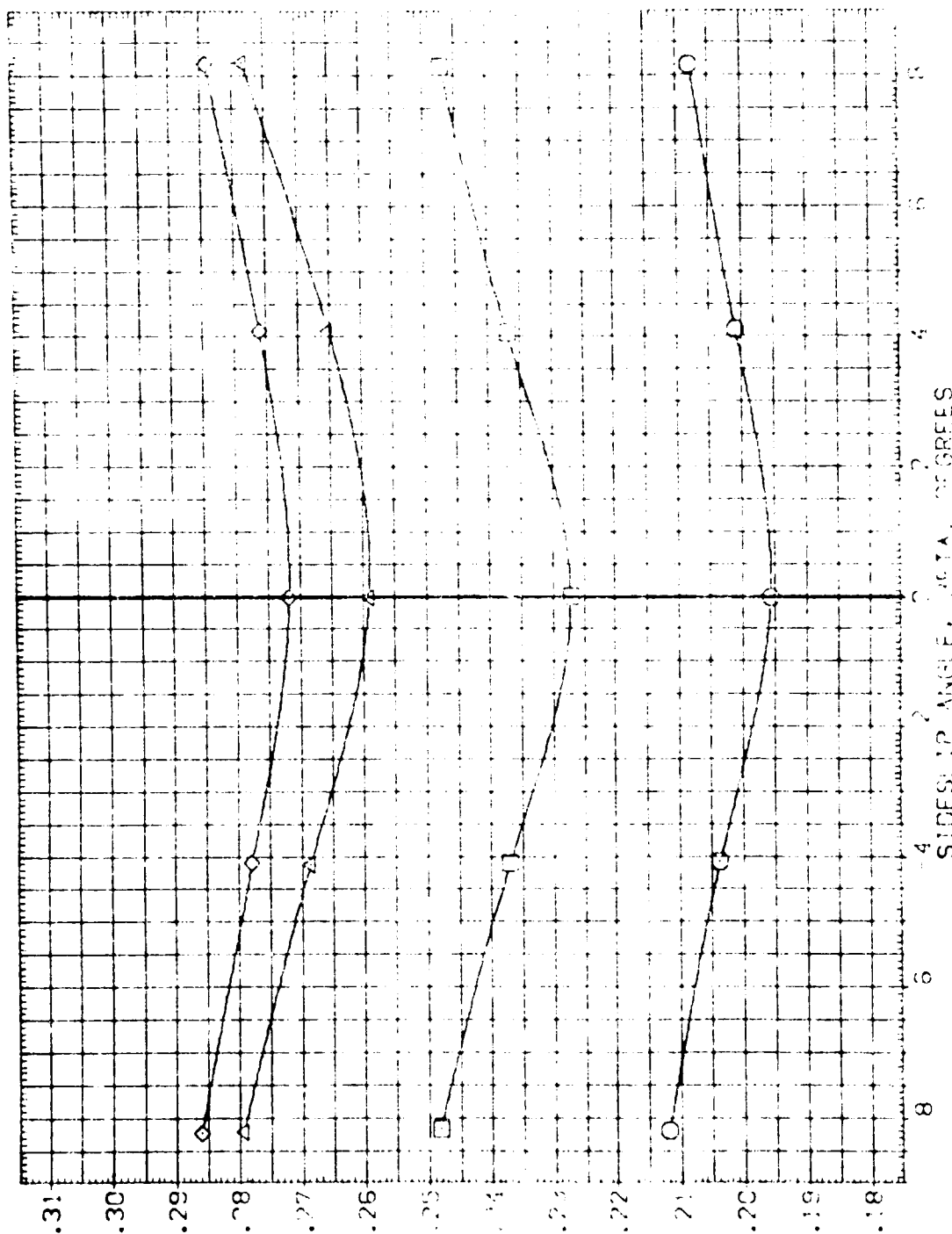


FIG. 2 LVAP (01 112 S12 N25 AT11) - ALPHA = 0 (TANK + SRM) BALANCE



AMES :1-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (R31118)

REFERENCE INFORMATION
 SRF 2.4210
 REF 38.7090
 BKT 38.7090
 X400 .0000
 Y400 .0000
 Z400 9.9500
 SCALE .030

PARAMETRIC VALUES
 ALPHA .000
 ELEVON .000
 RUDDER .000
 SPDRK .000

SH40
 .898
 .978
 1.102
 1.252

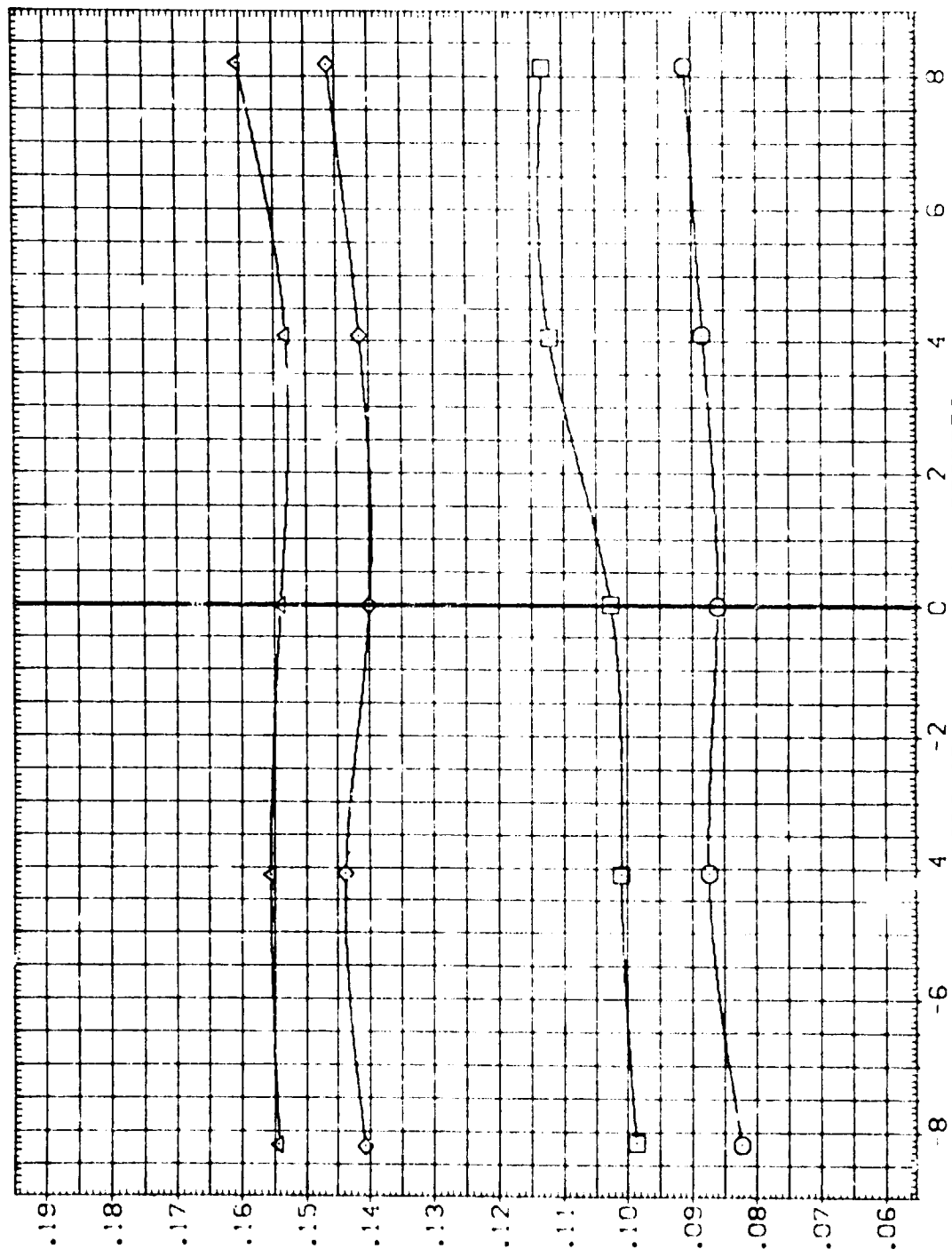


FIG. 2 LVAP (01 T12 S12 N25 AT11) , ALPHA = 0 (TANK + SRM BALANCE)

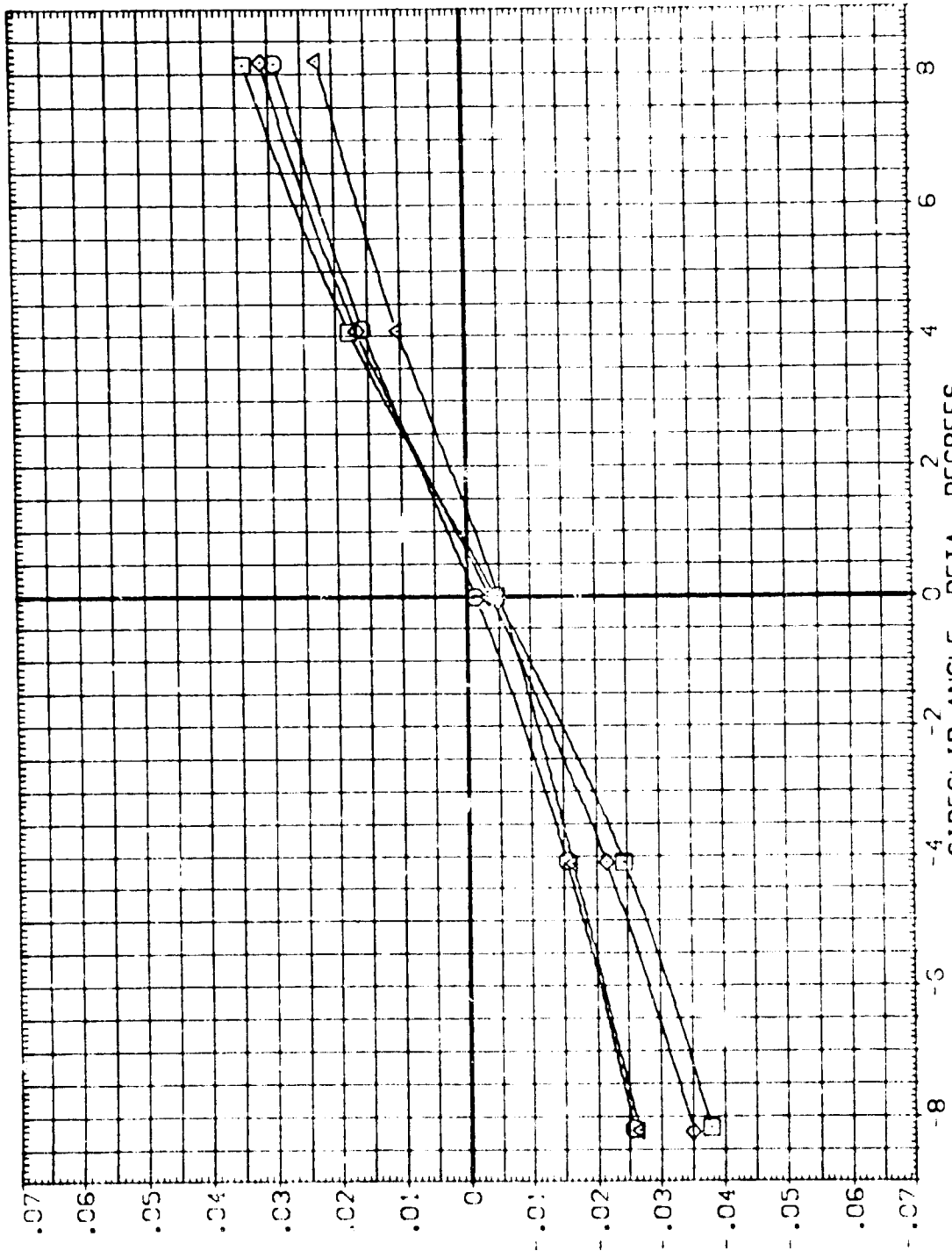
AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (RB1118)

SYNOPSIS
 MACH .899
 .918
 1.102
 1.252

PARAMETRIC VALUES
 ALPHA .000
 ELEVON .000
 SPOON .000
 RUDER .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRD .0000
 YMRD .0000
 ZMRD 9.9900
 SCALE .0300

50.FT.
 IN.
 IN.
 IN.
 IN.



YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)

FIG. 2 LVAP (01 T12 S12 N25 AT11) . ALPHA = 0 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE) (RB1128)

SYMBOL

MACH

1.246

ALPHA

RUDER

PARAMETRIC VALUES

.000 ELEVON

.000 SPOBRK

.000

.000

REFERENCE INFORMATION

SREF 2.4210

REF 38.7050

SREF 38.7050

XMRD .0000

YMRD .0000

ZMRD .0000

SCALE 9.9900

.0300

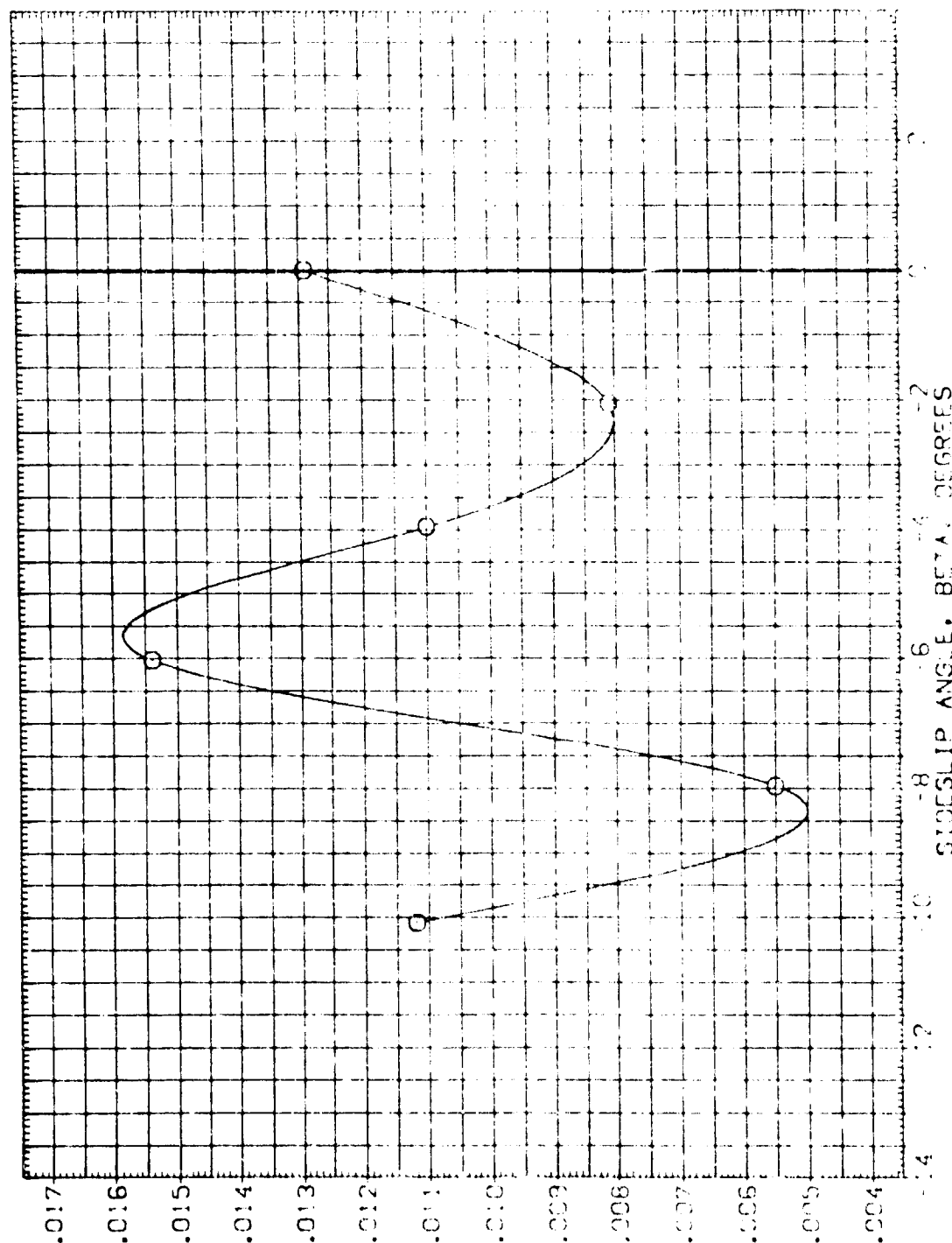


FIG. 3 LVA (01 T12 S12 N25 AT10) • ALPHA = 0 (COMPOSITE BALANCED)

AMES 11-716 1A14A 01+112+S12N25+AT10 (COMPOSITE) (RB1128)

SY-BOL

MACH 1.246

PARAMETRIC VALUES
ALPHA .000 ELEVON .000
RUDDER .000 SPOILER .000

REFERENCE INFORMATION
GREF 2.4210 SQ.FT.
LREF 38.7530 N.
BREF 38.7530 N.
XREF .0000 N.
YREF .0000 N.
ZREF 9.0000 N.
SCALE .0300

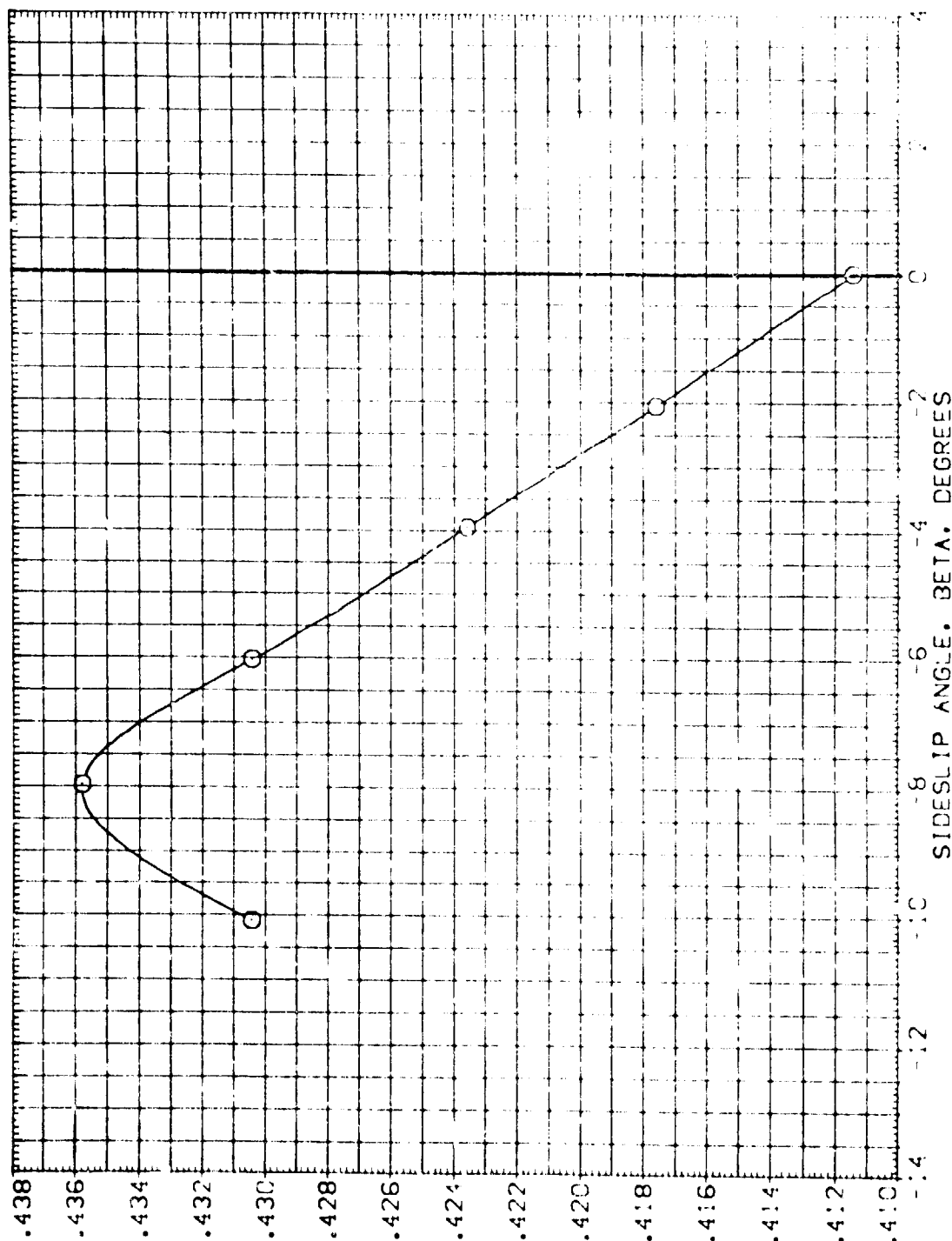


FIG. 3 LVA (01 112 S12 N25 AT10) • ALPHA = 0 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(RB1128)

SYMBOL 0 MACH 1.246

ALPHA RUDDER
P. PARAMETRIC VALUES
.000 ELEVON
.000 SPOBRK

REFERENCE INFORMATION
SREF 2.4210 SQ.FT.
LREF 38.7090 IN.
BREF 38.7090 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9900 IN.
SCALE .0300

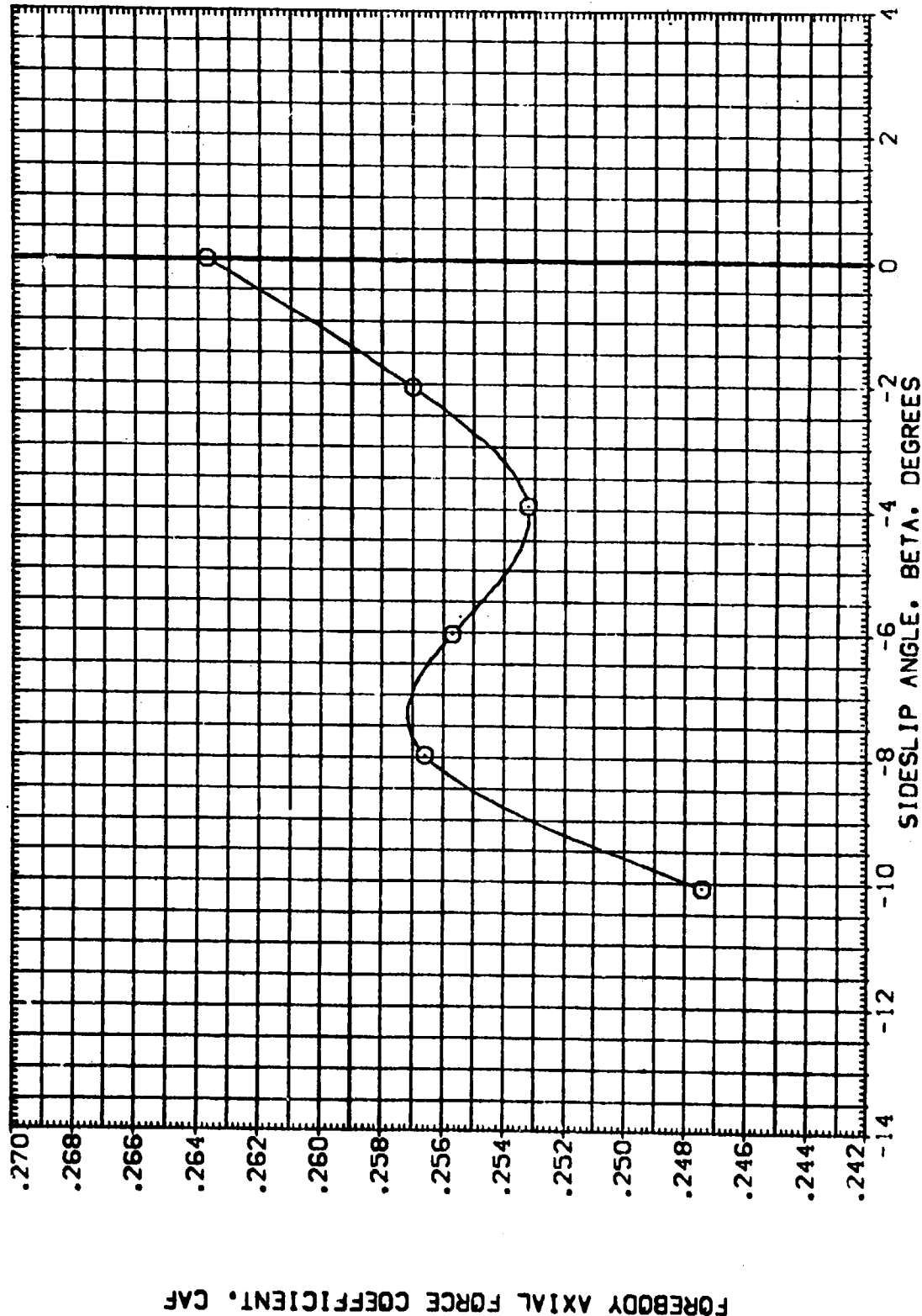


FIG. 3 LVA (01 T12 S12 N25 AT10) , ALPHA = 0 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(RB1128)

SYMBOL
O

MACH 1.216
ALPHA
RUDDER

PARAMETRIC VALUES
.000 ELEVON
.000 SPOBRK

.000
.000

REFERENCE INFORMATION
SREF 2.4210 SQ.FT.
LREF 28.7080 IN.
BREF 38.7080 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9500 IN.
SCALE .0300

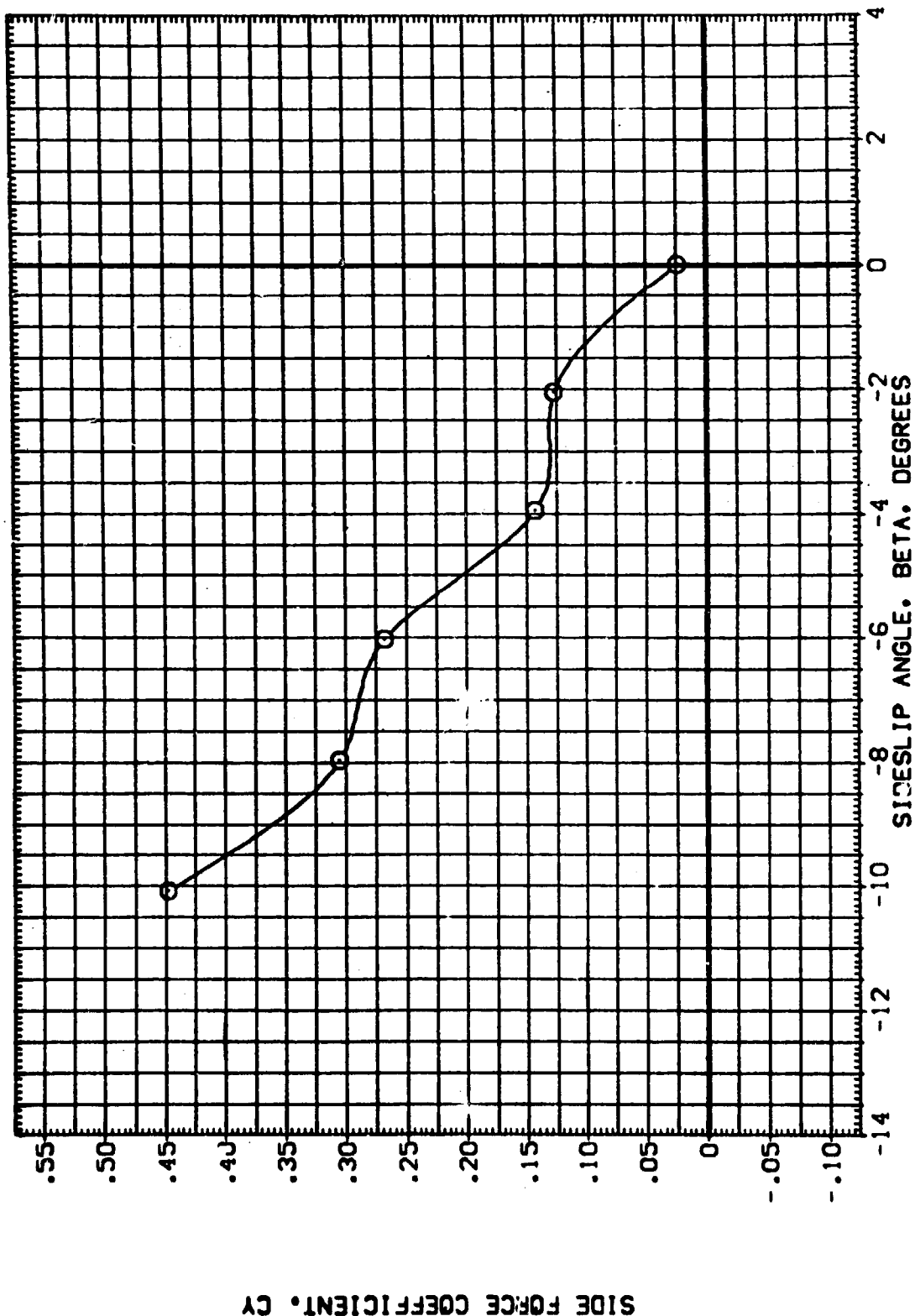


FIG. 3 LVA (01 T12 S12 N25 AT10) . ALPHA = 0 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE) (RB1128)

SYMBOL
O

REFERENCE INFORMATION
SREF 2.4210
LREF 38.7080
BREF 38.7080
XMRP .0000
YMRP .0000
ZMRP 9.8900
SCALE .0300

PARAMETRIC VALUES
ALPHA .000
ELEVON .000
RUDDER .000
SPOBRK .000

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)

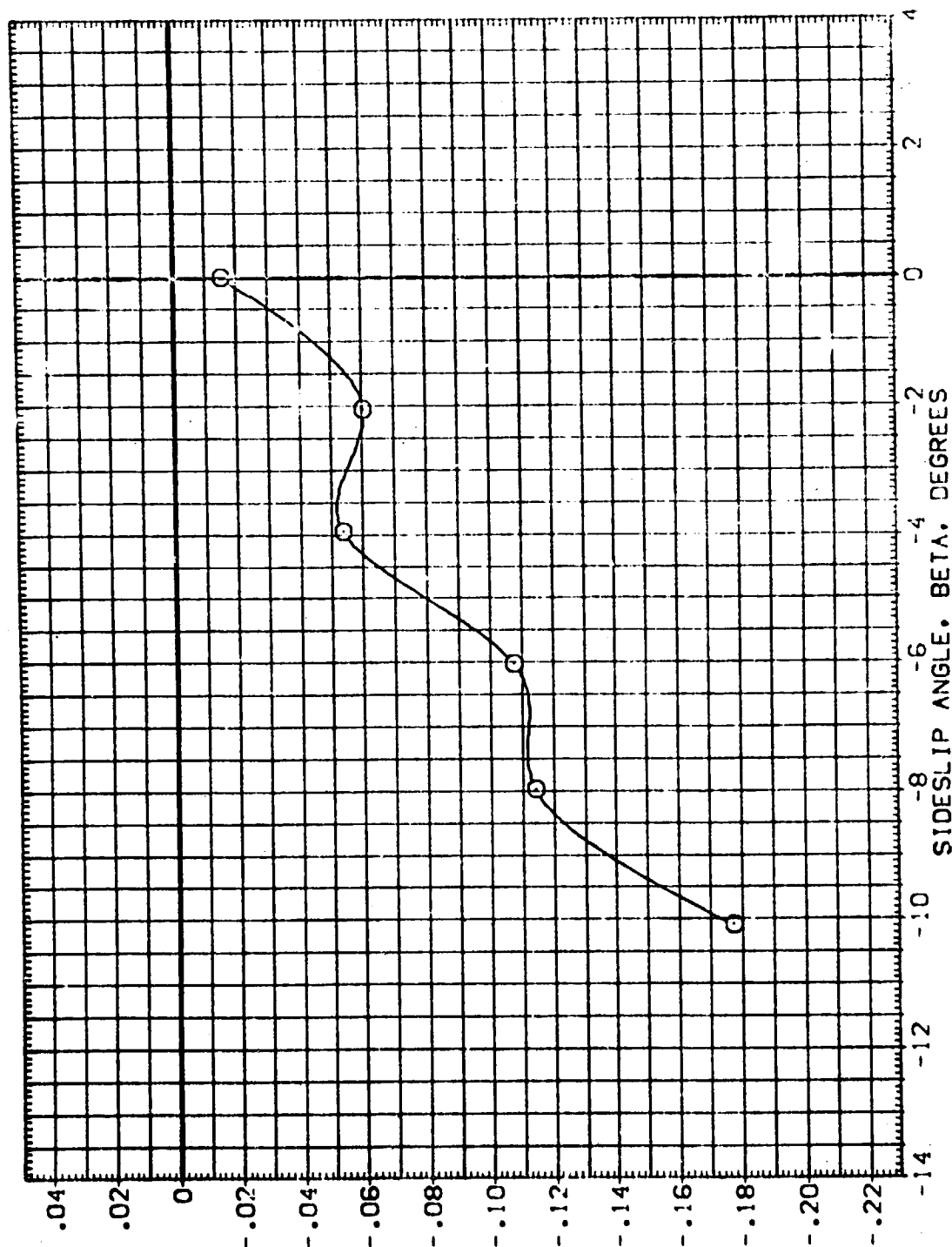


FIG. 3 LVA (01 T12 S12 N25 AT10) , ALPHA = 0 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(RB1128)

SYMBOL

○

MACH

1.246

ALPHA

RUDDER

PARAMETRIC VALUES

.000 ELEVON

.000 SPOBRK

.000

.000

REFERENCE INFORMATION

SREF 2.4210

LRREF 38.7090

BRREF 38.7090

XRMP 0.0000

YMRP 0.0000

ZMRP 9.9900

SCALE 0.300

SO.FT.

IN.

IN.

IN.

IN.

IN.

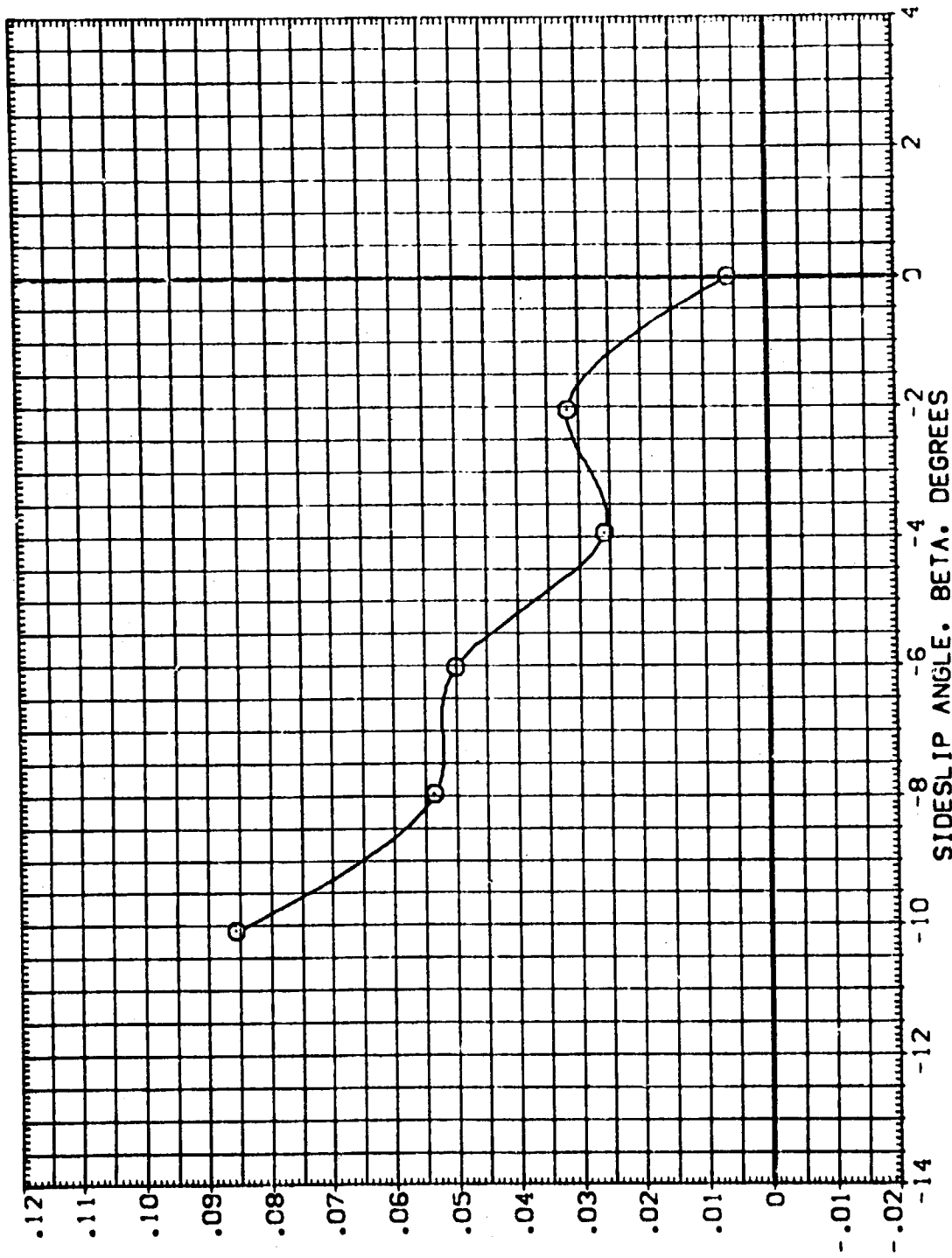


FIG. 3 LVA (01 T12 S12 N25 AT10) . ALPHA = 0 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (RB1130)

SYMBOL ALPHA BETA R-ODER

REFERENCE INFORMATION

SREF 2.4210 SQ.FT.

LREF 38.7090 IN.

BREF 38.7090 IN.

XMRP .0000 IN.

YMRP .0000 IN.

ZMRP 9.9900 IN.

SCALE .0300

PARAMETRIC VALUES

.000 ELEVON

.000 SPOBRK

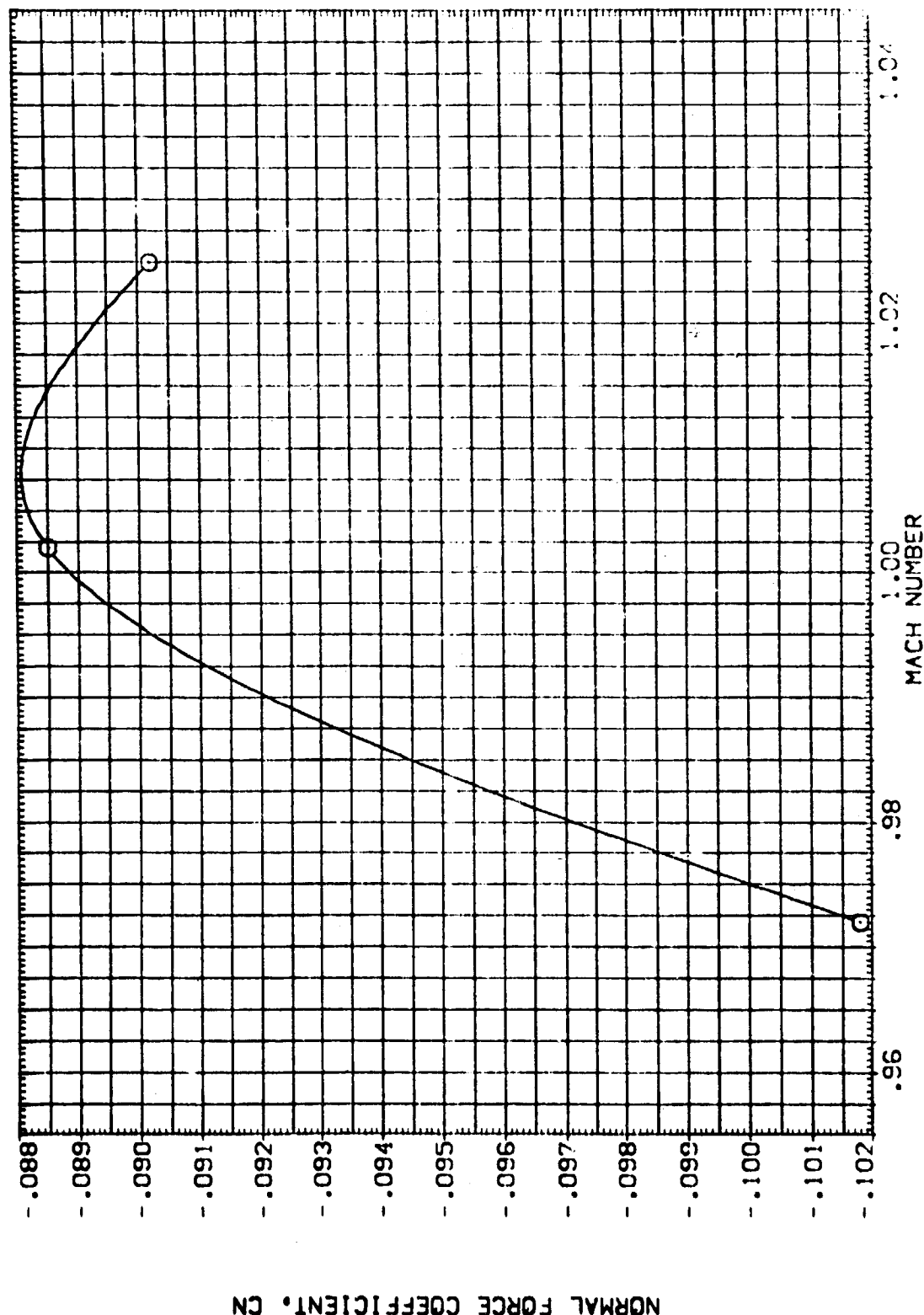


FIG. 4 LVAP (01 T12 S12 N25 AT11) , ALPHA = 0 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (RB1130)

SYMBOL ○

REFERENCE INFORMATION

SREF	2.4210	50. FT.
LREF	38.7090	IN.
BREF	38.7090	IN.
XMRP	.0000	IN.
YMRP	.0000	IN.
ZMRP	9.9900	IN.
SCALE	.0300	

PARAMETRIC VALUES

ALPHA	BETA	ELEVON	SPOBRK
-.530	.000	.000	.000

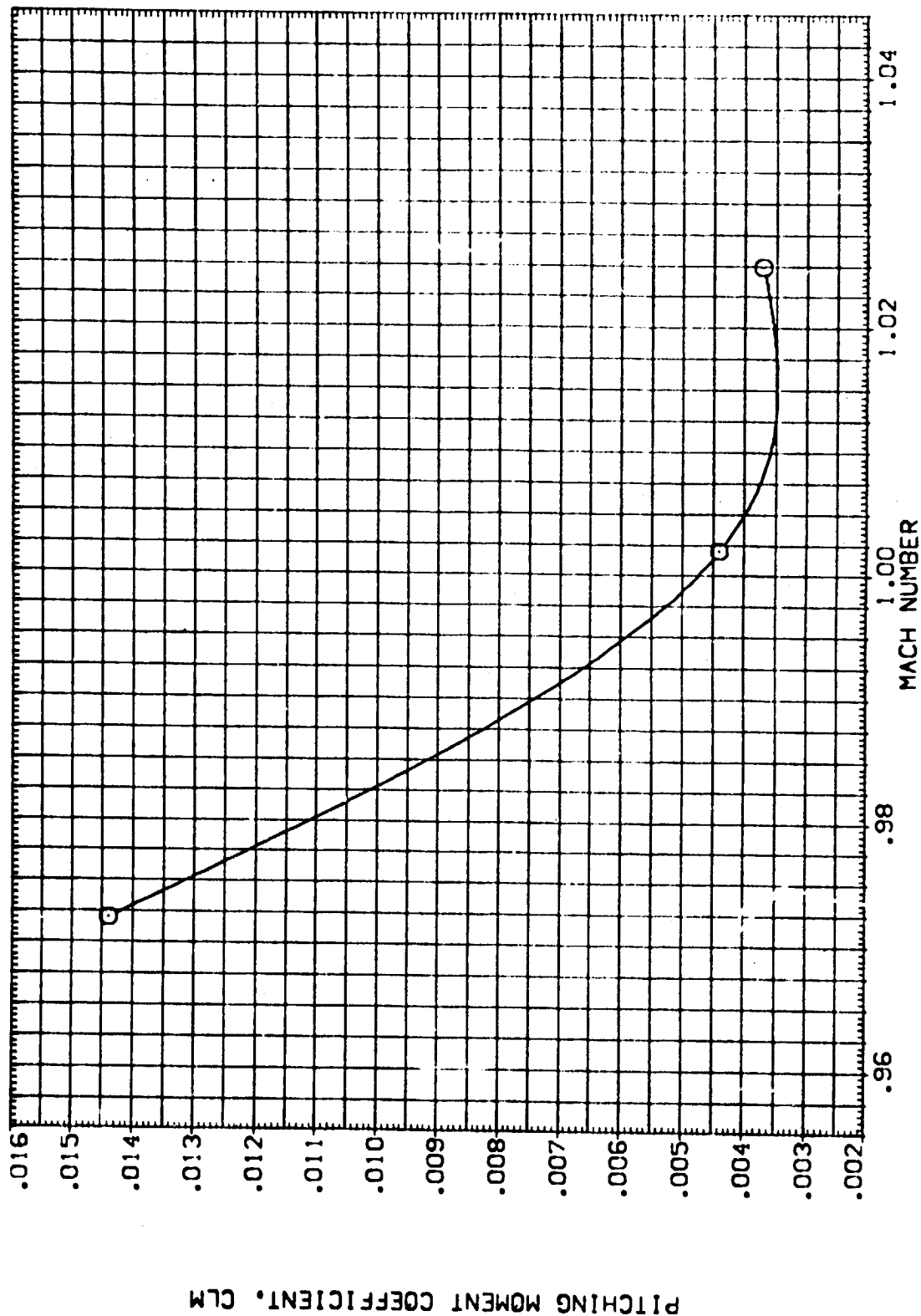


FIG. 4 LVAP (01 T12 S12 N25 AT11) , ALPHA = 0 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (RB1130)

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
○	-.530	RUDDER	.000 ELEVON .000 SPOBRK	SREF 2.4210 SQ.FT. LREF 38.7080 IN. BREF 38.7080 IN. XMRP .0000 IN. YMRP .0000 IN. ZMRP 9.9970 IN. SCALE .0300

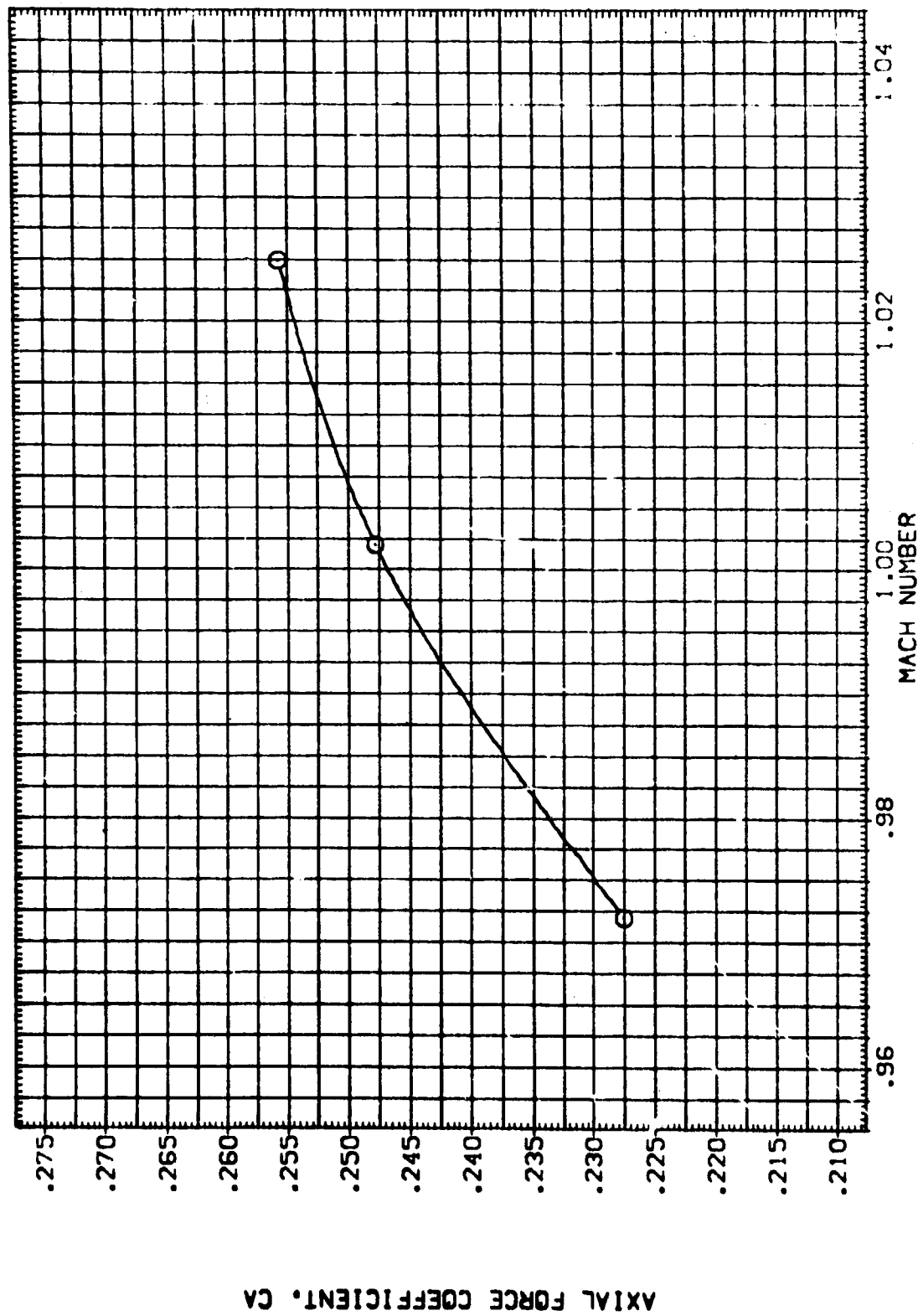


FIG. 4 LVAP (01 T12 S12 N25 AT11) • ALPHA = 0 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (RB1130)

SYMBOL
O

ALPHA
-0.530

BETA
FLUDER

PARAMETRIC VALUES
.000 ELEVON
.000 SPOBRK

.000
.000

REFERENCE INFORMATION
SREF 2.4210 50.FT.
LREF 38.7050 IN.
BREF 38.7050 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9900 IN.
SCALE .0300

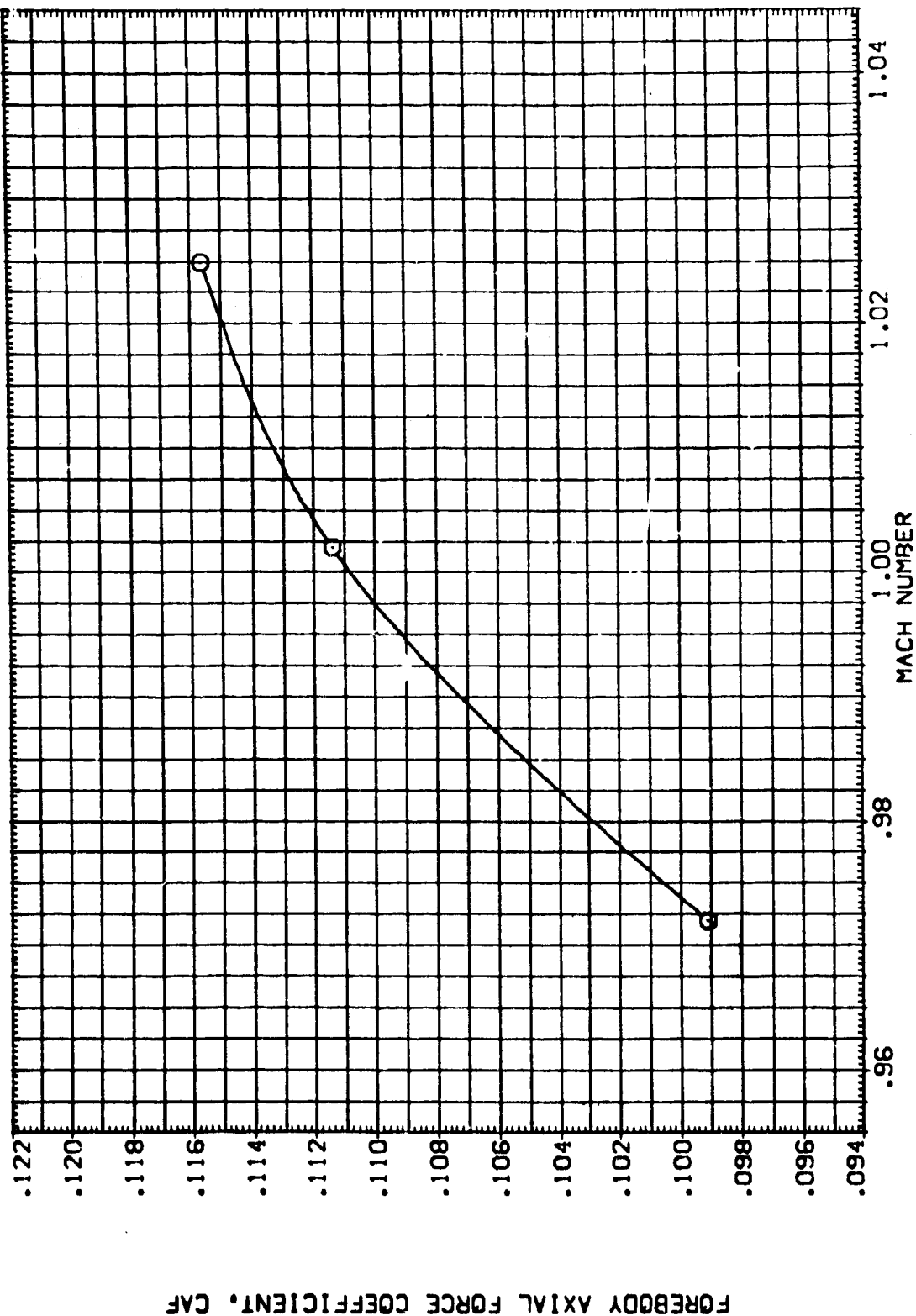


FIG. 4 LVAP (01 T12 S12 N25 AT11) . ALPHA = 0 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (RB1130)

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES		REFERENCE INFORMATION	
			RUDDER	ELEVON	SREF	SQ.FT.
○	-0.530			.000	LREF	2.4210
				.000	BREF	38.7090
				.000	XMRP	38.7090
				.0000	YMRP	.0000
				.0000	ZMRP	9.9900
					SCALE	.0300

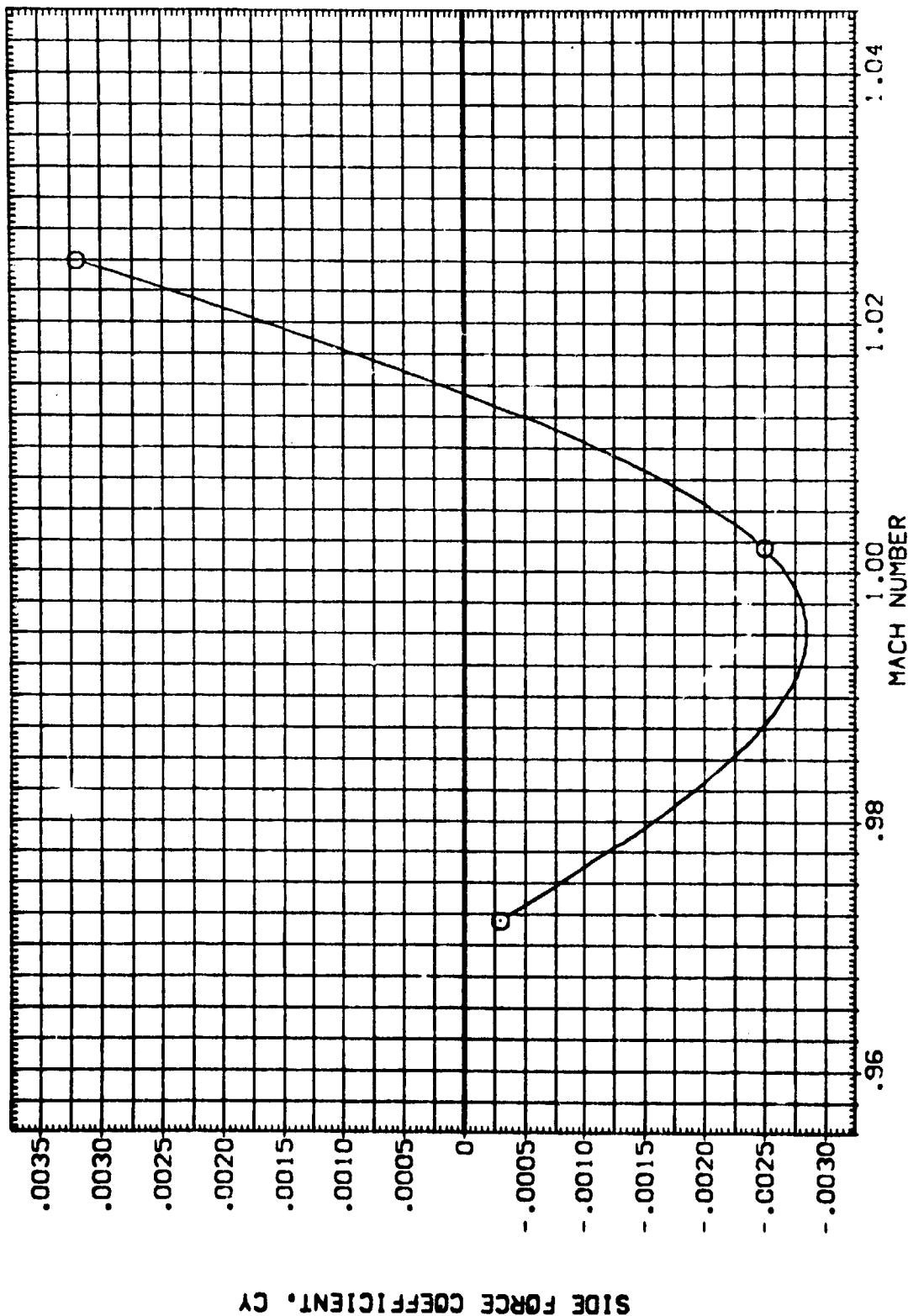


FIG. 4 LVAP (01 T12 S12 N25 AT11) , ALPHA = 0 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01 T12 S12 N25 AT11 (TANK+SRM) (RB1130)

SYMBOL	ALPHA	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
○	-.530	RUDDER	.000 ELEVON .000 SPOBRK	SREF 2.4210 SQ.FT. LREF 38.7090 IN. BREF 38.7090 IN. XMRP .0000 IN. YMRP .0000 IN. ZMRP 9.9900 IN. SCALE .0300

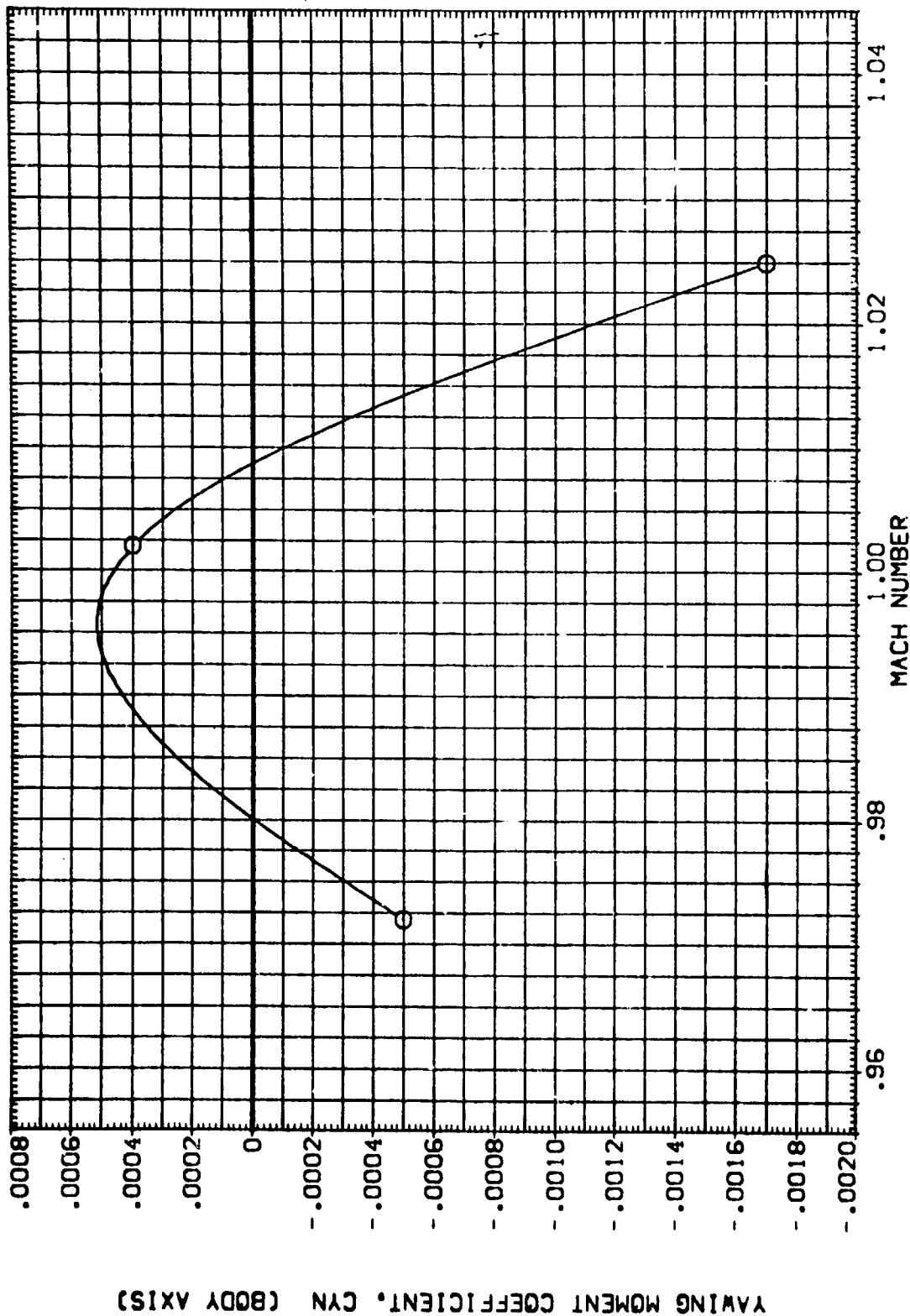


FIG. 4 LVAP (01 T12 S12 N25 AT11) , ALPHA = 0 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (RB1130)

SYMBOL ALPHA BETA RUDDER PARAMETRIC VALUES
 O -0.530 .000 .000 ELEVON .000 SPDBRK .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.5900 IN.
 SCALE .0300

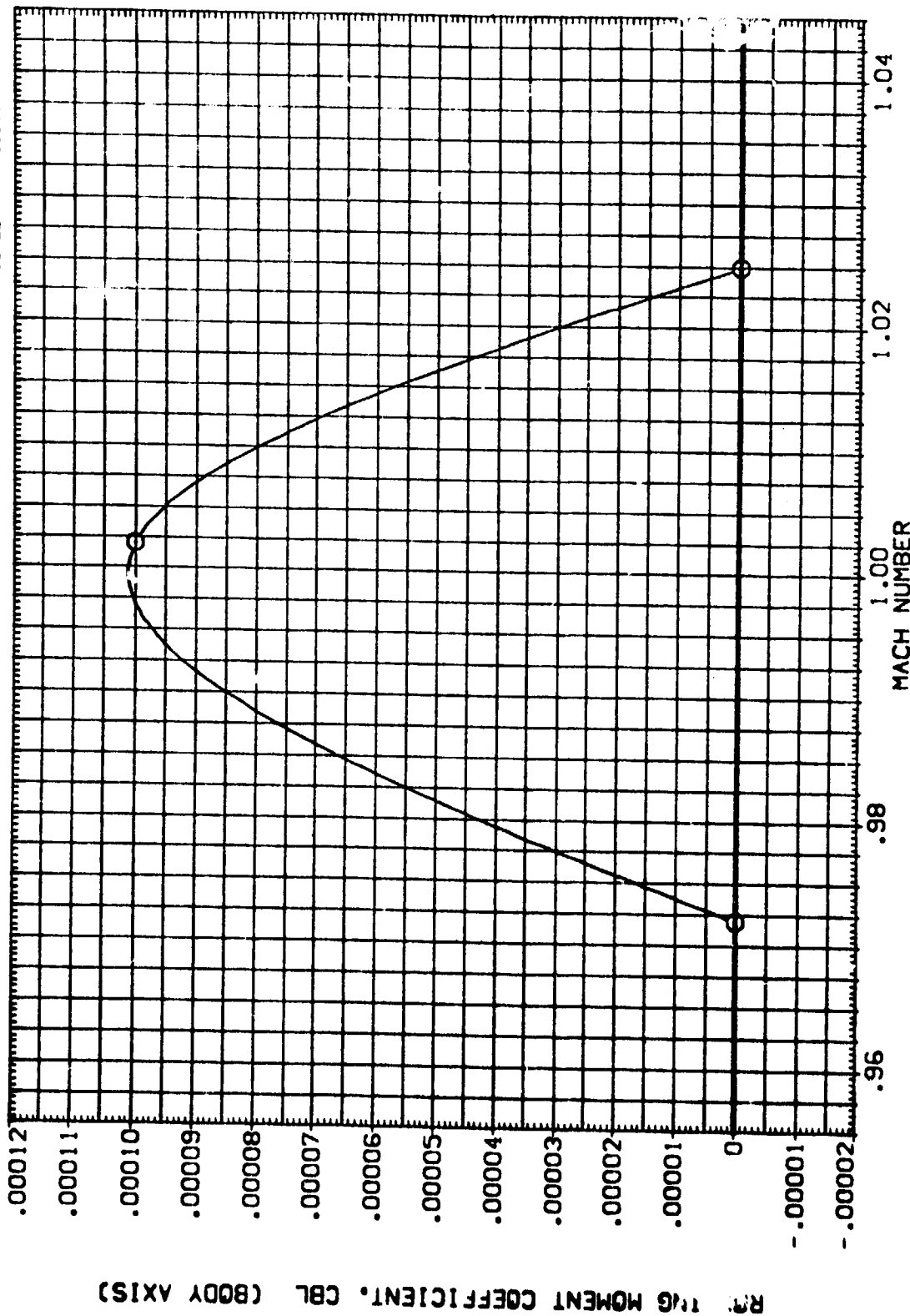


FIG. 4 LVAP (01 T12 S12 N25 AT11) • ALPHA = 0 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(1B:131)

SYMBOL
 ▽ ▴ ◊ ◻ ◯

BETA
 -10.000
 -8.000
 -6.000
 -4.000
 -2.000
 .000

MACH
 .901
 .000
 .000
 .000
 .000

ELEVON
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

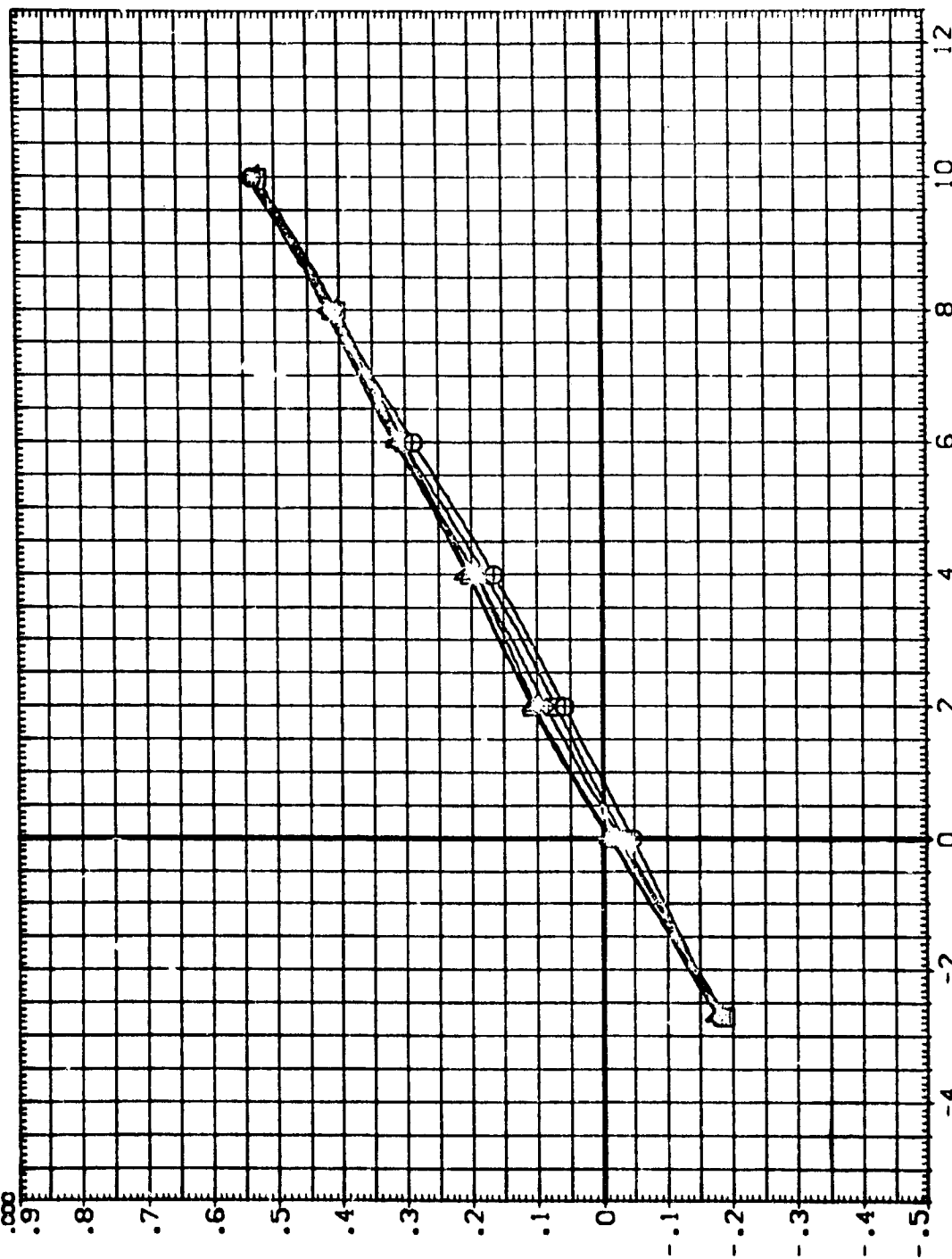


FIG. 5 LVA (01 T12 S12 N25 AT10) , MACH = .9 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(1B1131)

SYMBOL
 2
 4
 6
 8
 10

BETA
 2.000
 4.000
 6.000
 8.000
 10.000

MACH
 RUDDER

PARAMETRIC VALUES
 .901 ELEVON
 .000 SPOONK

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 YMRP .0000 IN.
 ZMRP .0000 IN.
 SCALE 9.9500
 .0300

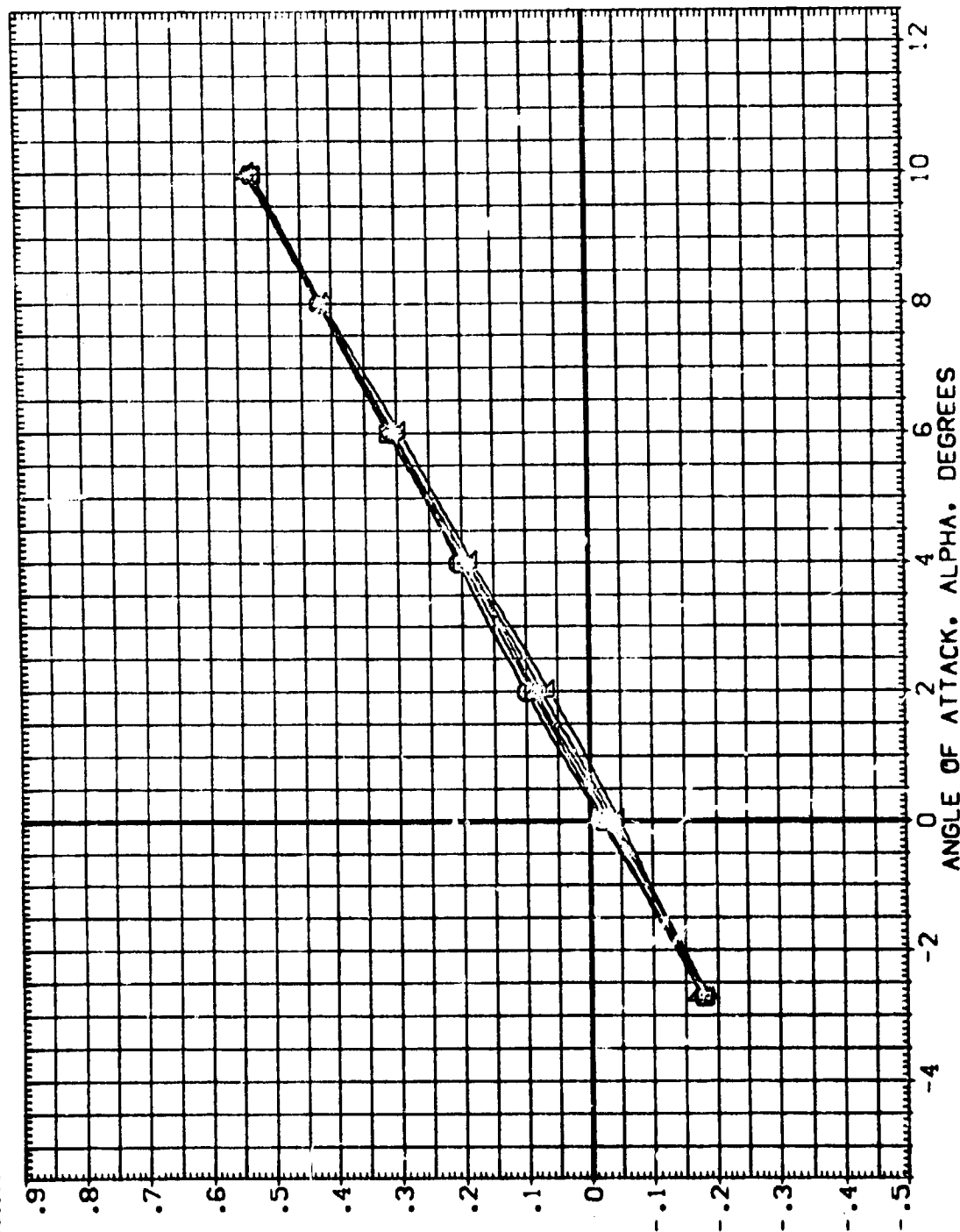


FIG. 5 LVA (01 T12 S12 N25 AT10) • MACH = .9 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(181131)

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

PARAMETRIC VALUES
 MACH .000
 RUDDER .000
 ELEVON .000
 SPOBRK .000

BETA
 -10.000
 -8.000
 -6.000
 -4.000
 -2.000
 .000

SYMBOL
 □ ◇ ◆ ▲ ▼ ○

PITCHING MOMENT COEFFICIENT, CLM

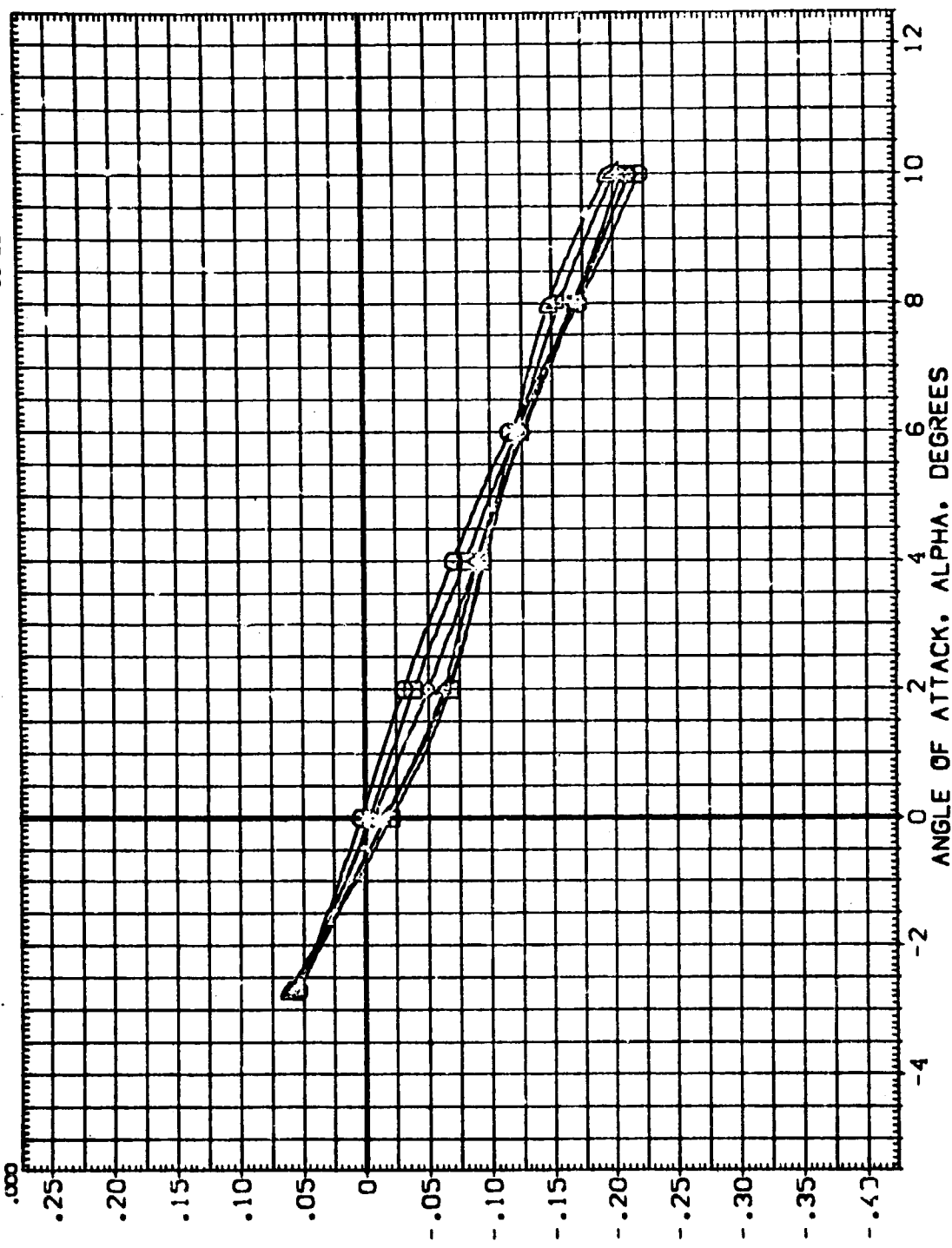


FIG. 5 LVA (01 T12 S12 N25 AT10) , MACH = .9 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(1B1131)

SYMBOL
 7
 4
 0
 0
 0
 0

BETA
 2.000
 4.000
 6.000
 8.000
 10.000

PARAMETRIC VALUES
 MACH
 .901
 ELEVON
 .000
 SPOBRK
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

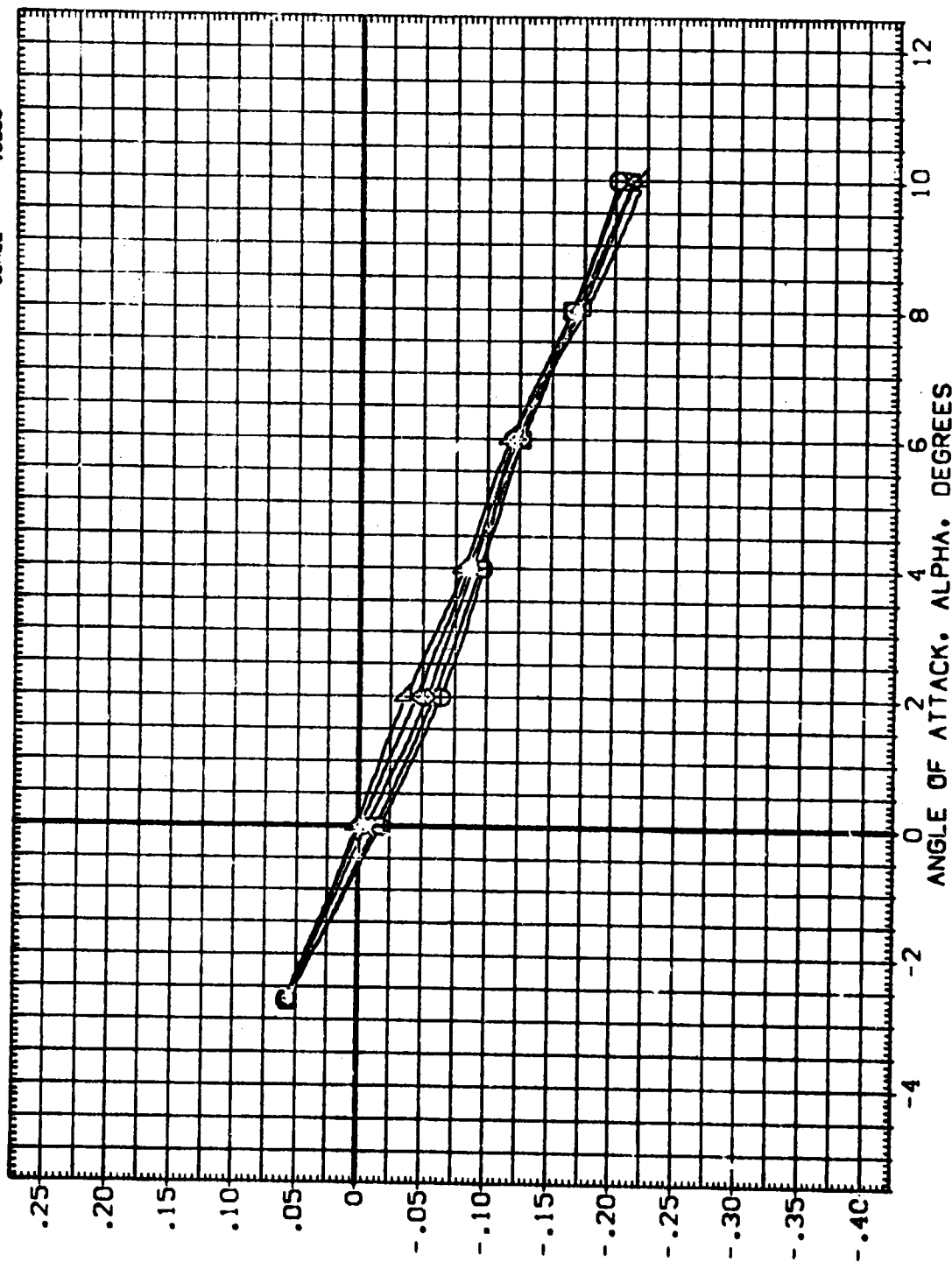


FIG. 5 LVA (01 T12 S12 N25 AT10) . MACH = .9 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(1B1131)

SYMBOL
 □ ◇ ◊ ◊ ◊ ◊ ◊

BETA
 -10.000
 -8.000
 -6.000
 -4.000
 -2.000
 .000

MACH
 RLODER
 .901
 .000
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 .000
 .000

REFERENCE INFORMATION
 SPREF 2.4210 SQ.FT.
 LPREF 38.7050 IN.
 BRPF 38.7050 IN.
 XMRP .0770 IN.
 YMRP .0000 IN.
 ZMRP 9.8900 IN.
 SCALE .0300

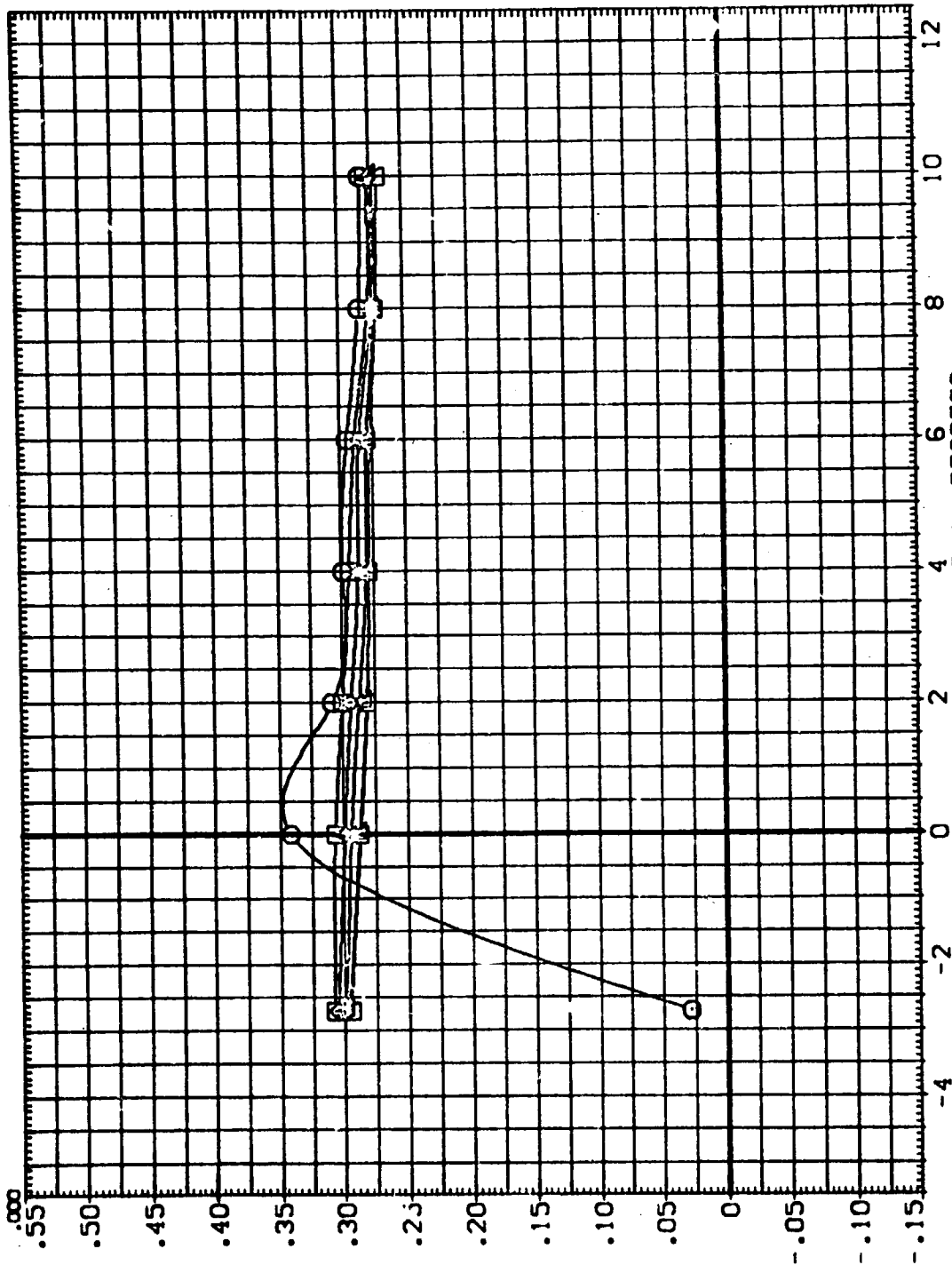


FIG. 5 LVA (01 T12 S12 N25 AT10) , MACH = .9 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE) (181131)

SYMBOL
○ □ ◇ △

BETA
2.000
4.000
6.000
8.000
10.000

MACH
RUDDER

PARAMETRIC VALUES
.901 ELEVON
.000 SPOBRK

.000
.000

REFERENCE INFORMATION
SREF 2.4210 SO.FT.
LREF 38.7090 IN.
BREF 38.7090 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9900 IN.
SCALE .0300

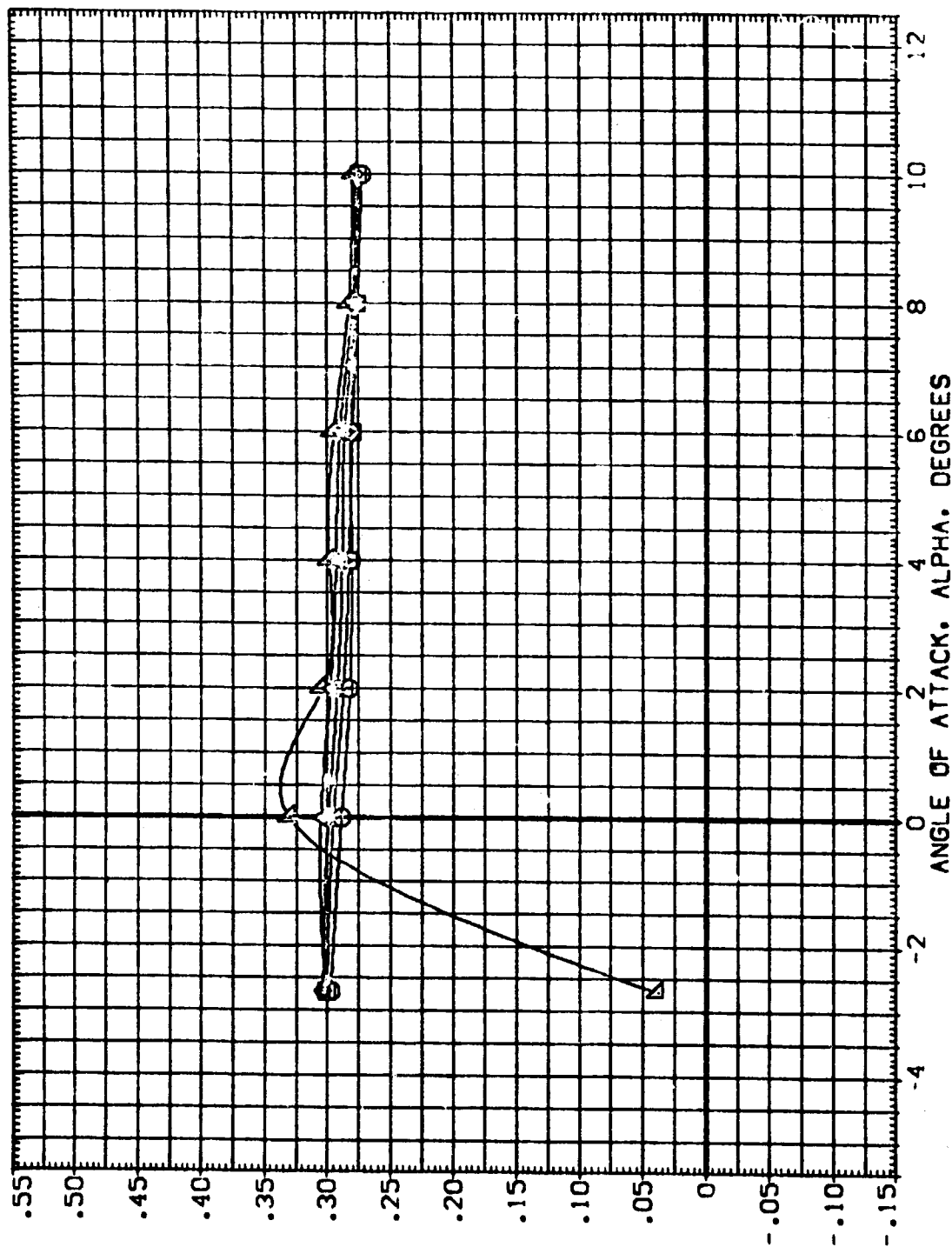


FIG. 5 LVA (01 T12 S12 N25 AT10) , MACH = .9 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(1B1131)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	BETA	MACH	ELEVON	SREF	SQ.FT.	
□	-10.000	.901	.000	LREF	2.4210	IN.
◇	-8.000	.000	.000	BREF	38.7090	IN.
△	-6.000	.000	.000	XMRP	38.7090	IN.
▽	-4.000	.000	.000	YMRP	.0000	IN.
◊	-2.000	.000	.000	ZMRP	9.9900	IN.
○	.000	.000	.000	SCALE	.0300	

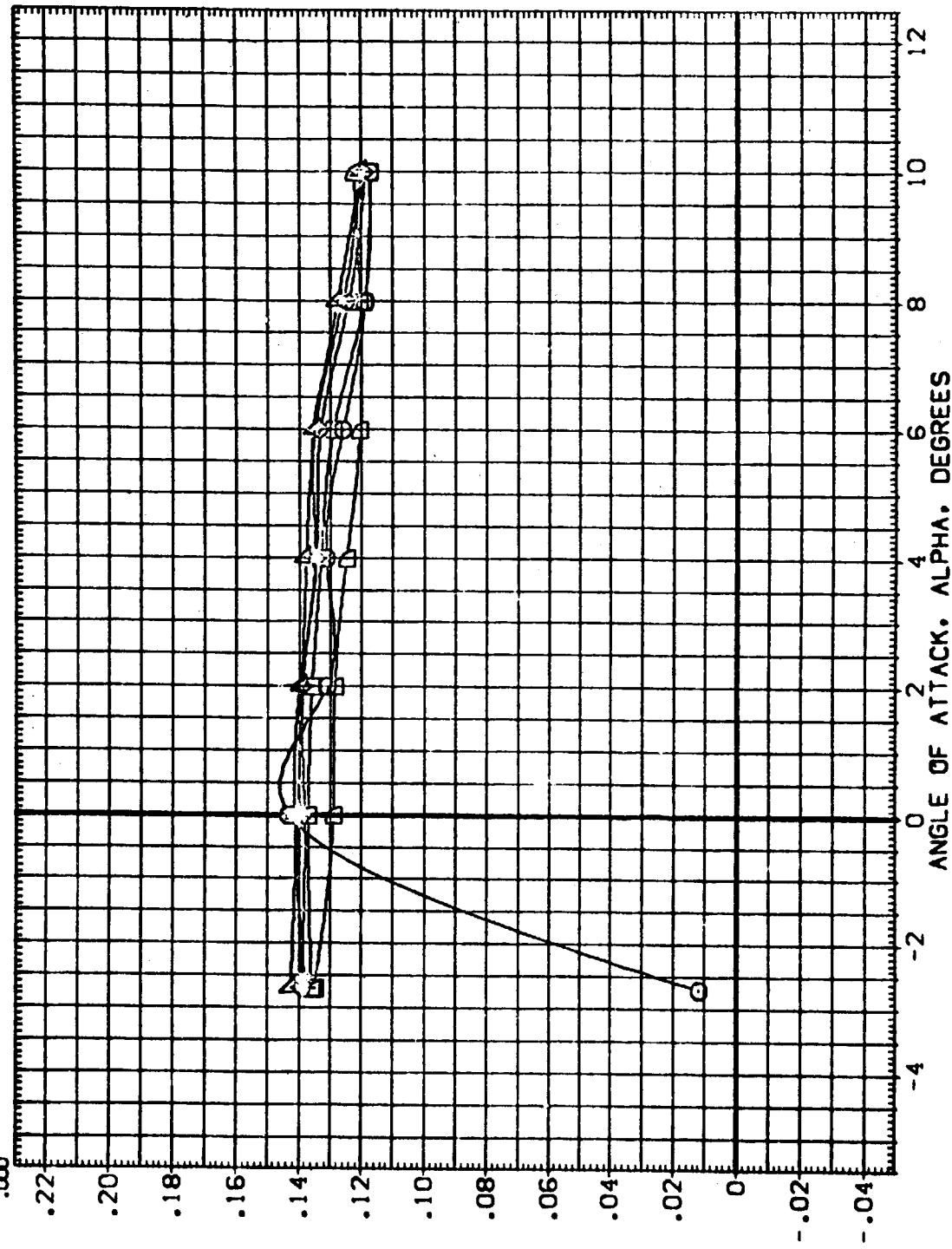


FIG. 5 LVA (01 T12 S12 N25 AT10) . MACH = .9 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+112+S12N25+AT10 (COMPOSITE)(1B1131)

SYMBOL
 ○
 ◇
 △
 ▽

BETA
 2.000
 4.000
 6.000
 8.000
 10.000

PARAMETRIC VALUES
 .901 ELEVON
 .000 SPOBRK

MACH-
 RUDDER
 .000 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

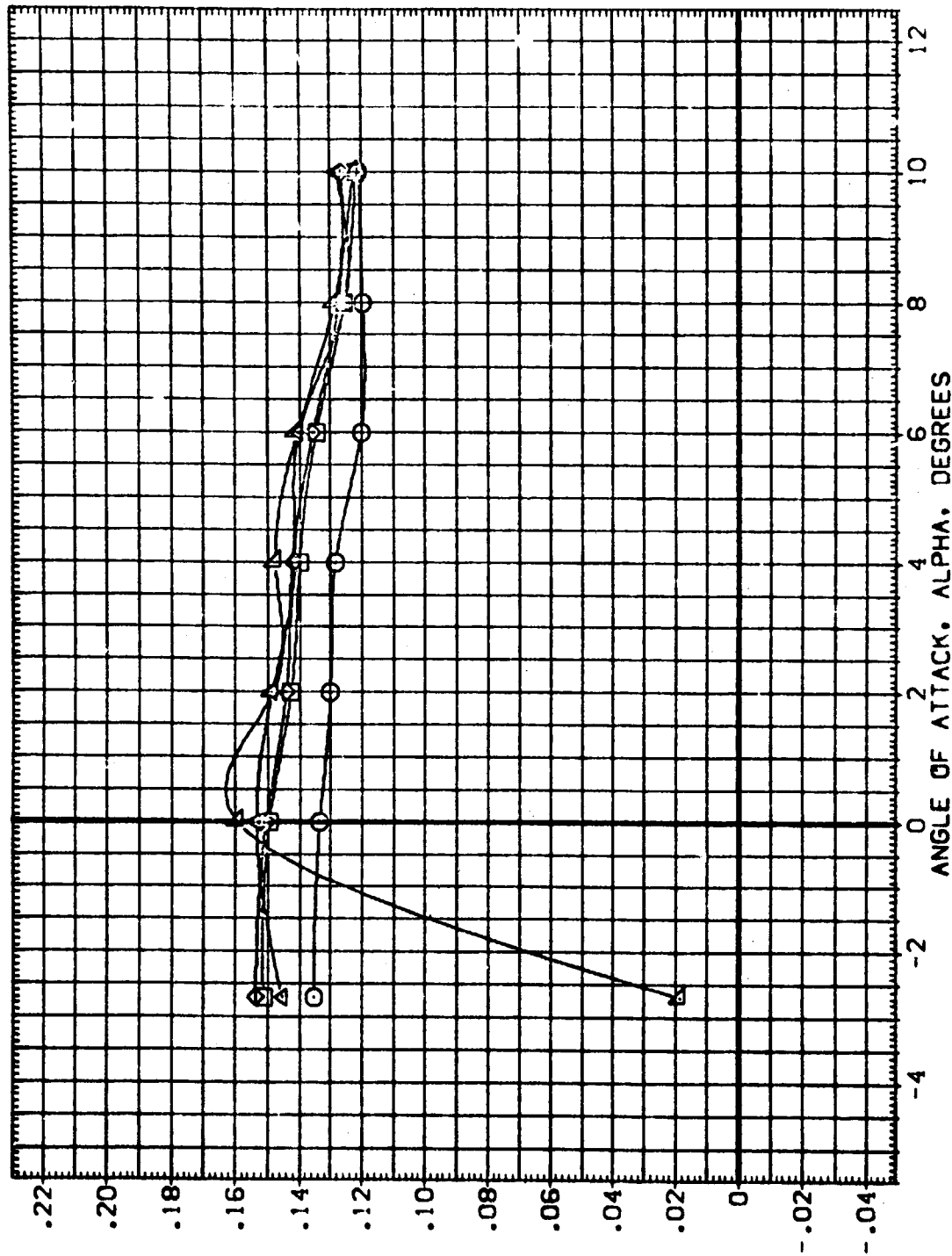


FIG. 5 LVA (01 T12 S12 N25 AT10) . MACH = .9 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(181131)

SYMBOL
 ○
 □
 ◇
 △
 ▽

BETA
 -10.000
 -8.000
 -6.000
 -4.000
 -2.000
 .000

MACH
 RUDDER
 .001
 .000
 ELEVON
 .000
 SPOBRK
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

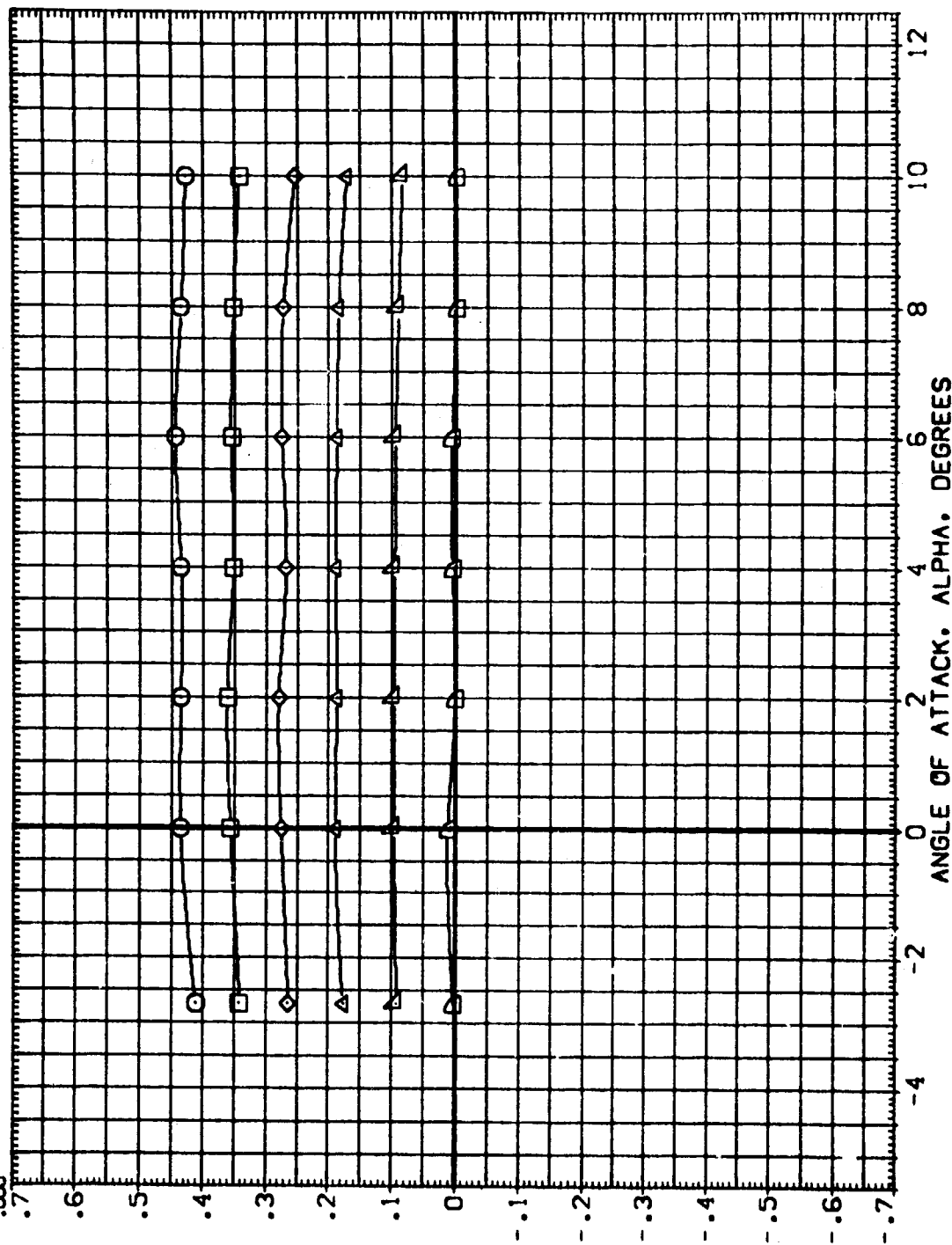


FIG. 5 LVA (01 T12 S12 N25 AT10) , MACH = .9 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(181131)

SYMBOL
 2.000
 4.000
 6.000
 8.000
 10.000

BETA
 2.000
 4.000
 6.000
 8.000
 10.000

PARAMETRIC VALUES
 .901 ELEVON
 .000 SPOILER

.000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9500 IN.
 SCALE .0300

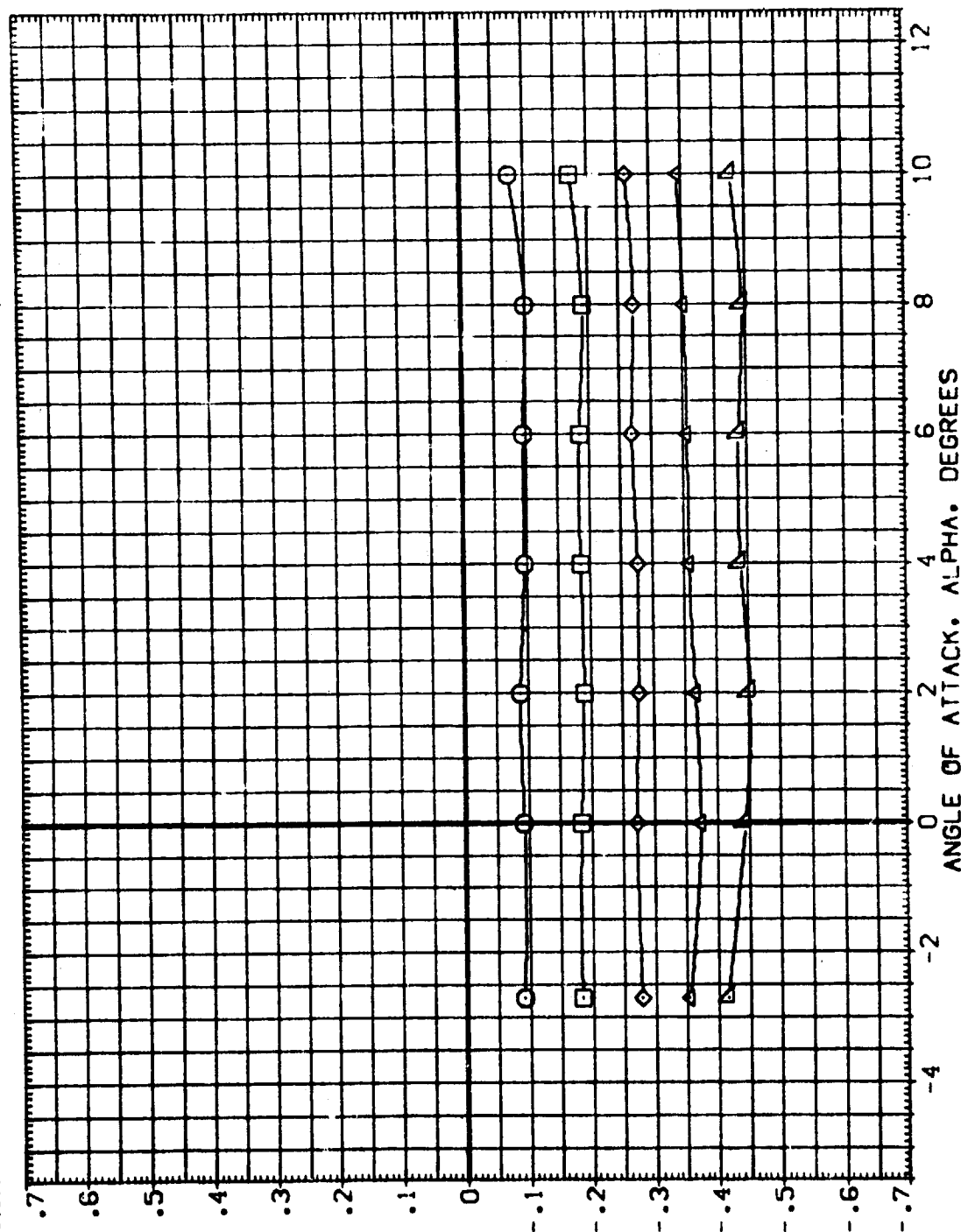


FIG. 5 LVA (01 T12 S12 N25 AT10) • MACH = .9 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(1B1131)

REFERENCE INFORMATION
 SREF 2.4210 50.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9800 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -10.000 MACH .000
 .901 ELEVON .000
 .000 SPOBRK .000
 RUDDER .000
 -8.000
 -6.000
 -4.000
 -2.000
 .000

SYMBOL
 ○ □ △ ◇

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)

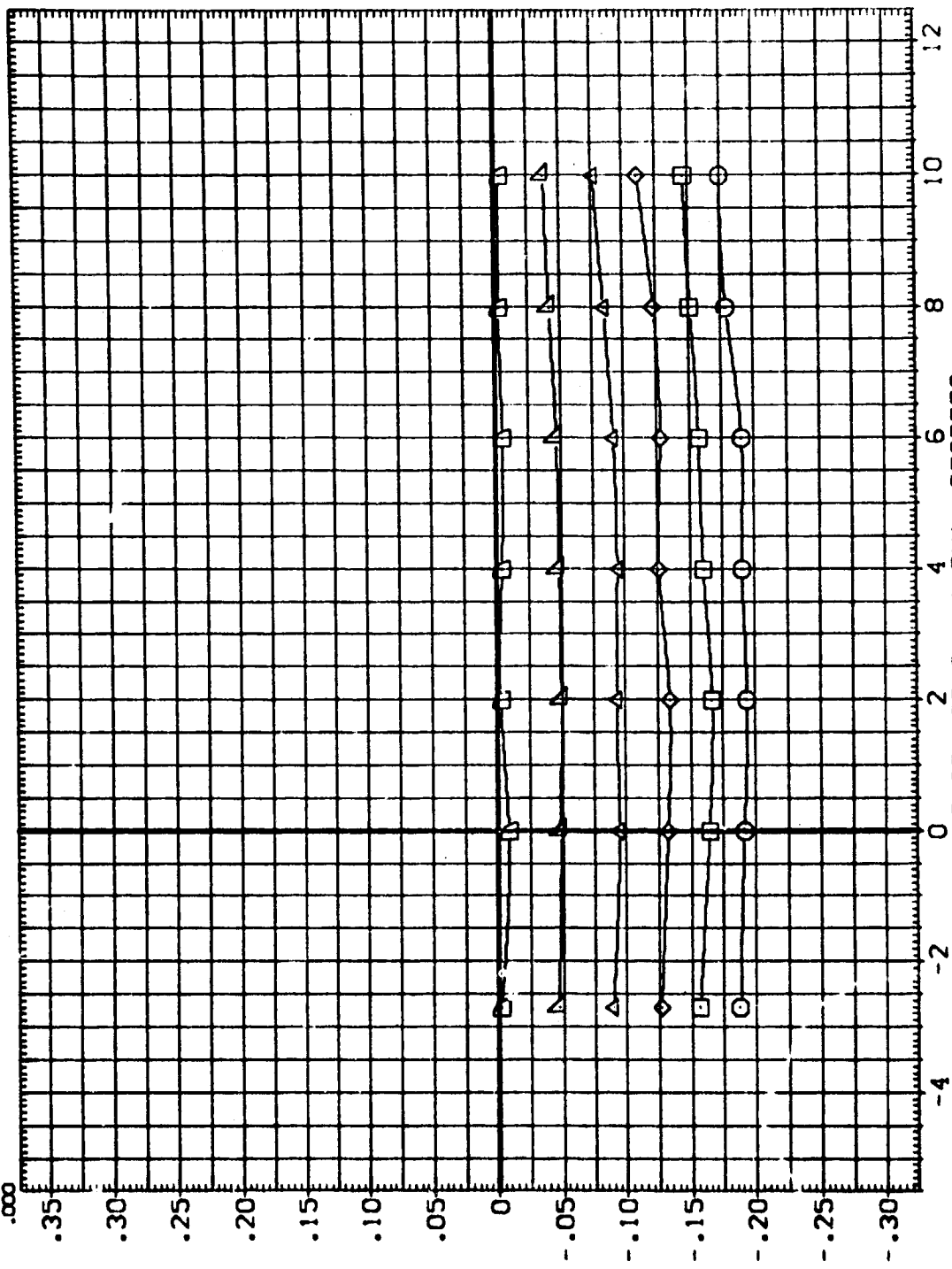


FIG. 5 LVA (01 T12 S12 N25 AT10) . MACH = .9 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(1B1131)

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7080
 BREF 38.7080
 XMRP .0000
 YMRP .0000
 ZMRP 9.9800
 SCALE .0300

PARAMETRIC VALUES
 .901 ELEVON .000
 .000 SPOBRK .000

BETA
 -10.000
 -8.000
 -6.000
 -4.000
 -2.000
 .000

SYMBOL
 ○ □ ◇ △ ▽

ROLLING MOMENT COEFFICIENT, CRL (BODY AXIS)

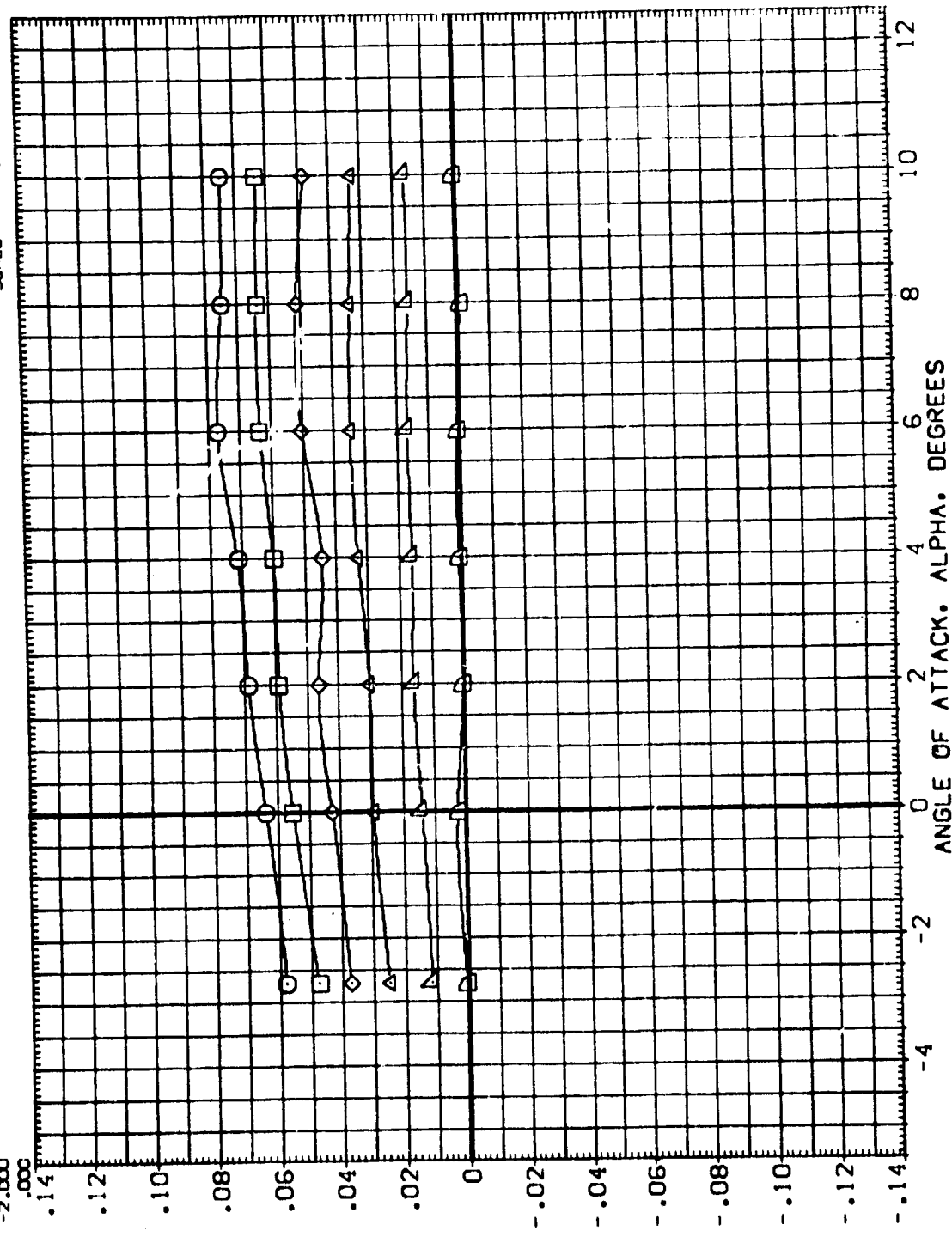


FIG. 5 LVA (01 T12 S12 N25 AT10) , MACH = .9 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE) (1B1131)

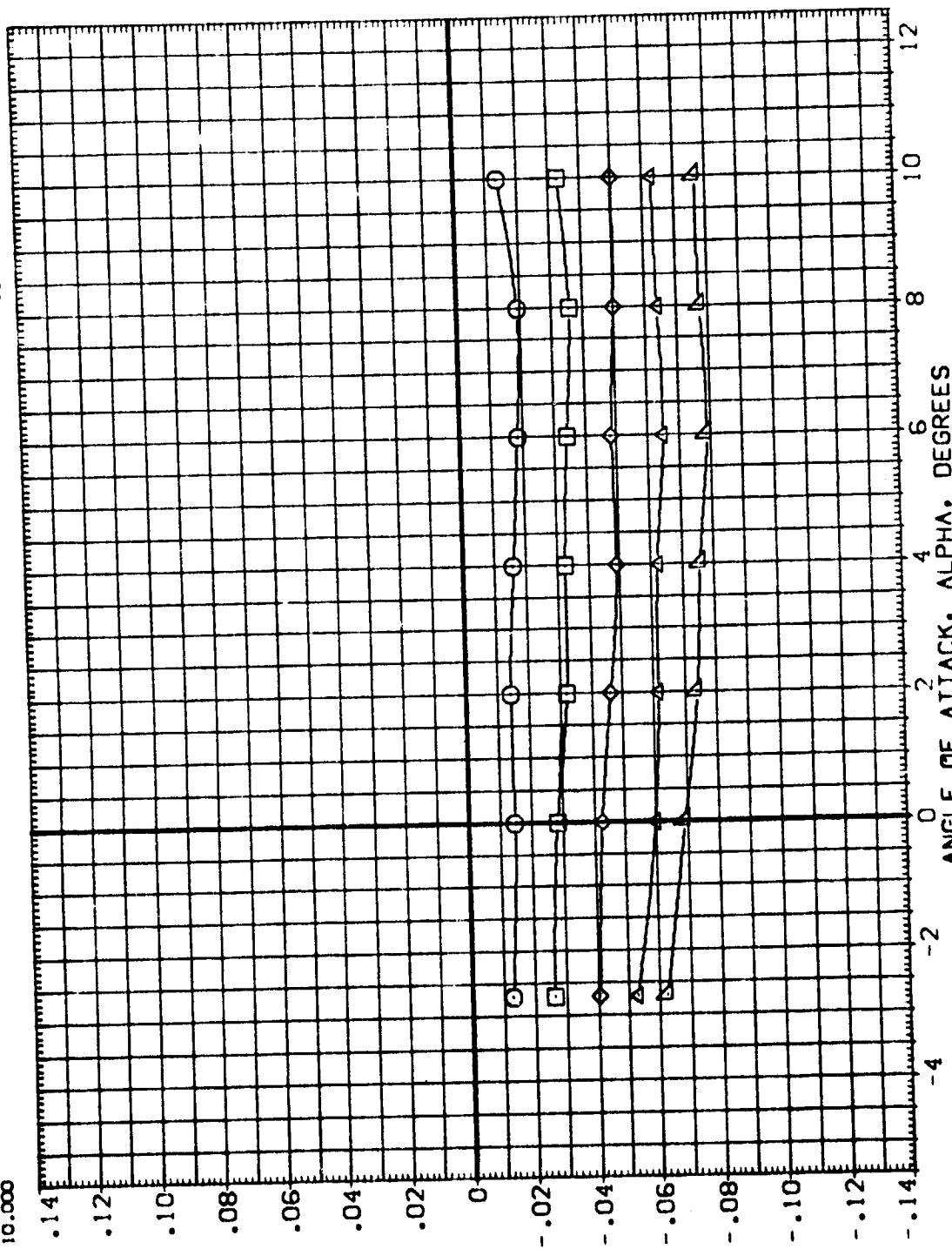
SYMBOL
 □ ◇ △ ▽ ▽

BETA
 2.000
 4.000
 6.000
 8.000
 10.000

PARAMETRIC VALUES
 .901
 .000
 .000
 .000
 .000
 .000

MACH
 RUDDER

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7093
 BREF 38.7093
 XMRP .0000
 YMRP .0000
 ZMRP 9.9933
 SCALE .3303



ROLLING MOMENT COEFFICIENT, CBL (BODY AXIS)

FIG. 5 LVA (01 T12 S12 N25 AT10) , MACH = .9 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+112+S12N25+AT10 (COMPOSITE)(1B1132)

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7080 IN.
 BREF 38.7080 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

PARAMETRIC VALUES
 MACH 1.100
 RUDDER .000
 ELEVON .000
 SPOILER .000

BETA
 -10.000
 -8.000
 -6.000
 -4.000
 -2.000
 .000

NORMAL FORCE COEFFICIENT, CN

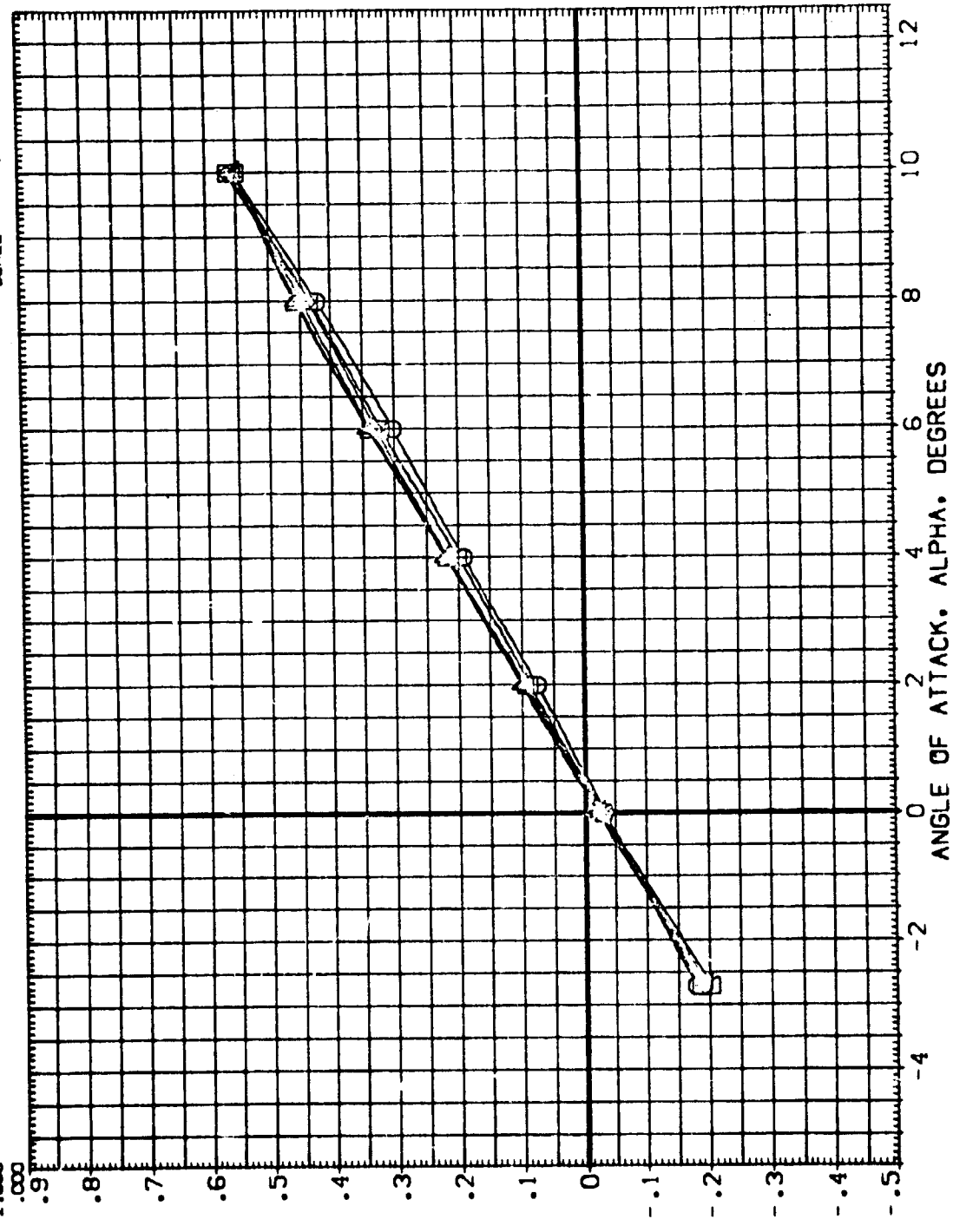


FIG. 6 LVA (01 112 S12 N25 AT10) , MACH = 1.1 (COMPOSITE BALANCE)

SYMBOLS

BETA
2.000
4.000
6.000
8.000
10.000

PARAMETRIC VALUES
1.100 ELEVON
.000 SPDRBK

88

REFERENCE INFORMATION	
SREF	2.4210
LREF	38.7090
SREF	38.7090
XMRP	.0000
YMRP	.0000
ZMRP	9.9900
SCALE	.0300

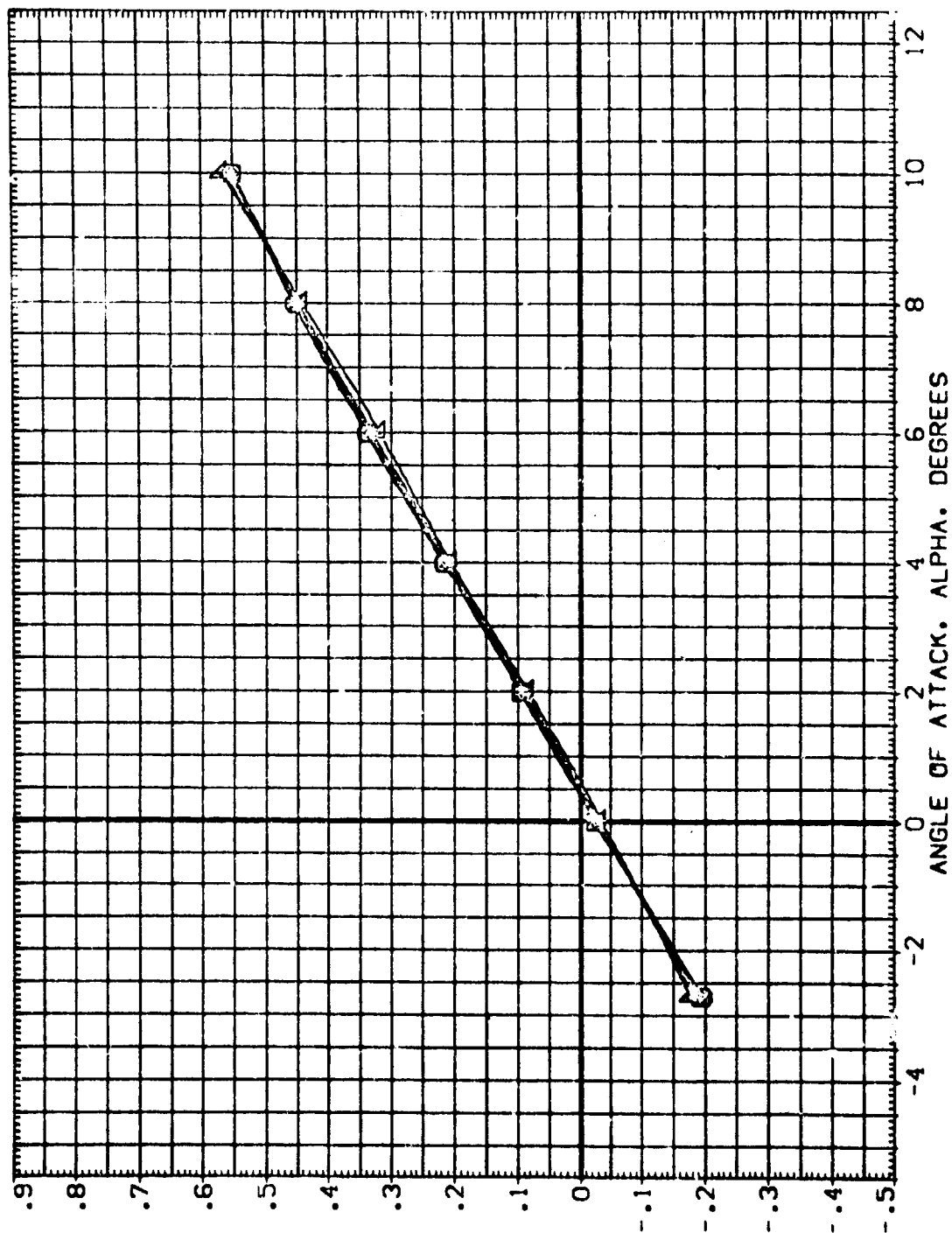


FIG. 6 LVA (01 T12 S12 N25 AT10) , MACH = 1.1 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(1B1132)

REFERENCE INFORMATION

SREF	2.4210	SO.FT.
LREF	38.7080	IN.
BREF	38.7080	IN.
XMRP	.0000	IN.
YMRP	.0000	IN.
ZMRP	9.9900	IN.
SCALE	.0300	

PARAMETRIC VALUES

BETA	1.100	ELEVON	.000
MACH	.000	SPDRK	.000
RUDER			

BETA

-10.000
-8.000
-6.000
-4.000
-2.000
.000

SYMBOL

○	◇	△	□
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PITCHING MOMENT COEFFICIENT, CLM

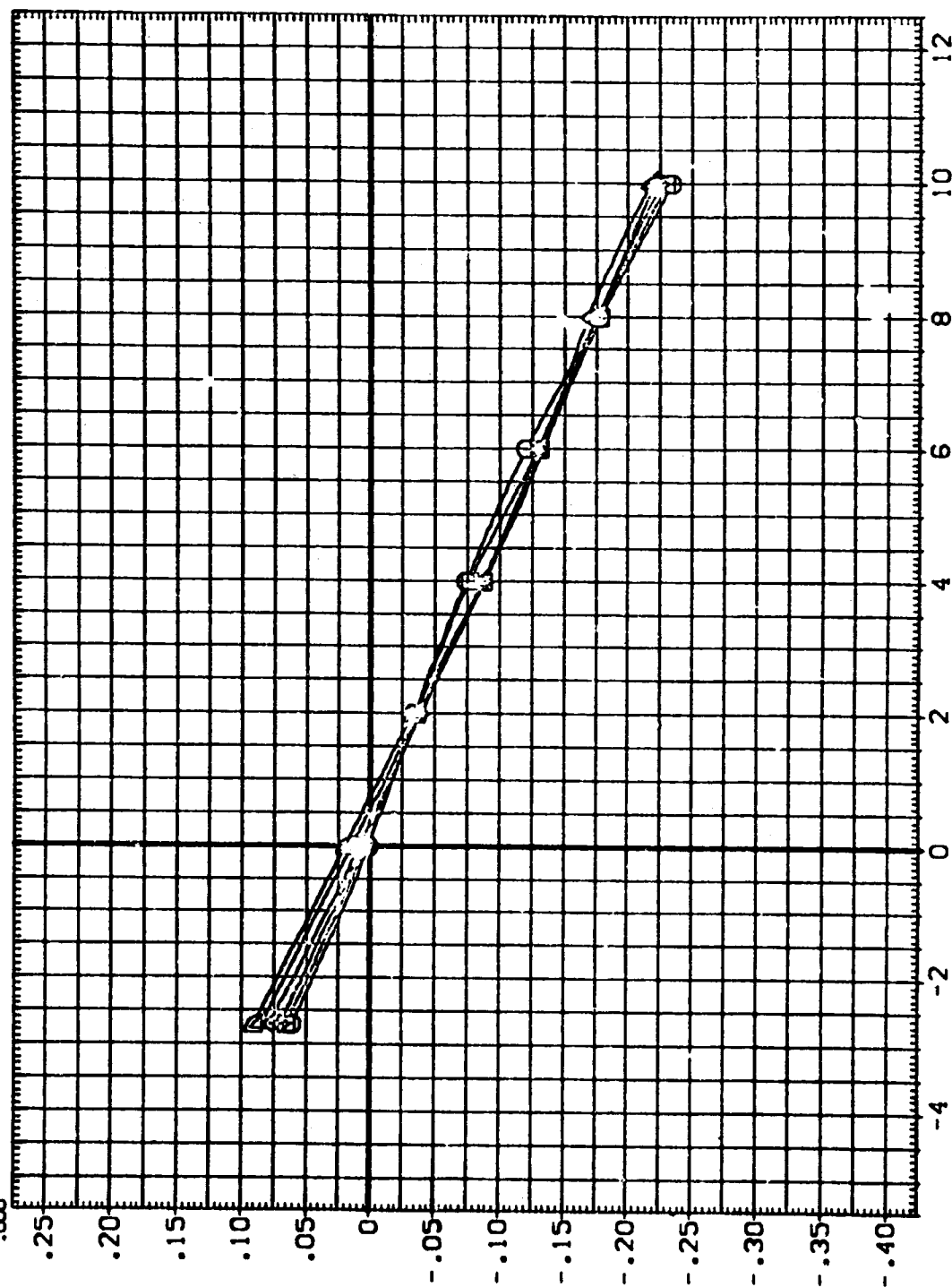


FIG. 6 LVA (01 T12 S12 N25 AT10) • MACH = 1.1 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(1B1132)

SYMBOL	BETA	MACH	PARAMETRIC VALUES	REFERENCE INFORMATION
□	2.000	FLUDER	1.100	SREF 2.4210
◇	4.000		.000	REF 38.7090
◇	6.000		.000	REF 38.7090
◇	8.000		.000	XMRP .0000
◇	10.000		.000	YMRP .0000
				ZMRP 9.9930
				SCALE .0300
				SQ.FT. IN. IN. IN. IN.

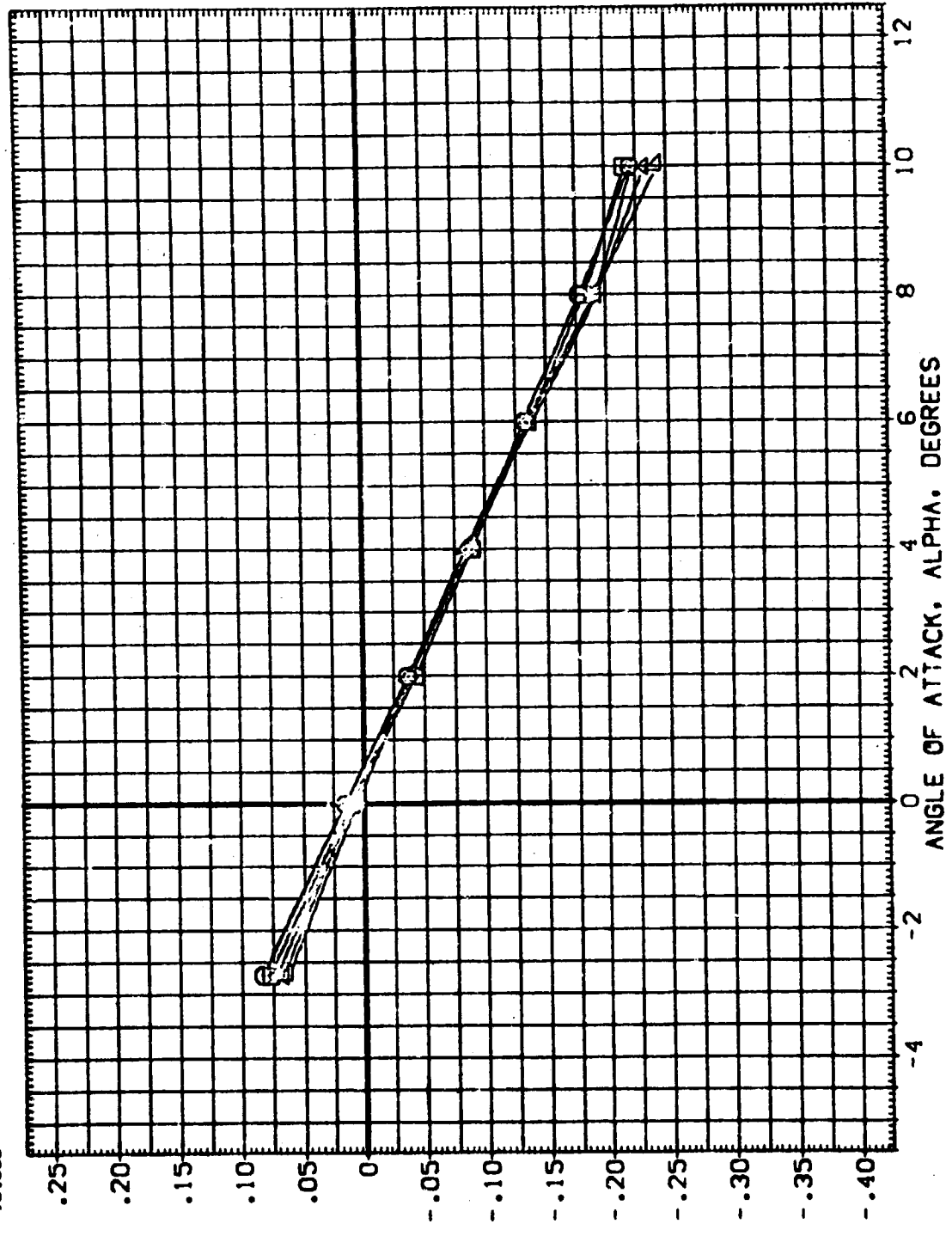


FIG. 6 LVA (01 T12 S12 N25 AT10) . MACH = 1.1 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(1B1132)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION	
	BETA	MACH	ELEVON	SREF	SO.FT.
□	-10.000	1.100	.000	LREF	IN.
□	-8.000	.000	.000	BREF	IN.
□	-6.000	.000	.000	XMRP	IN.
□	-4.000	.000	.000	YMRP	IN.
□	-2.000	.000	.000	ZMRP	IN.
□	.000	.000	.000	SCALE	

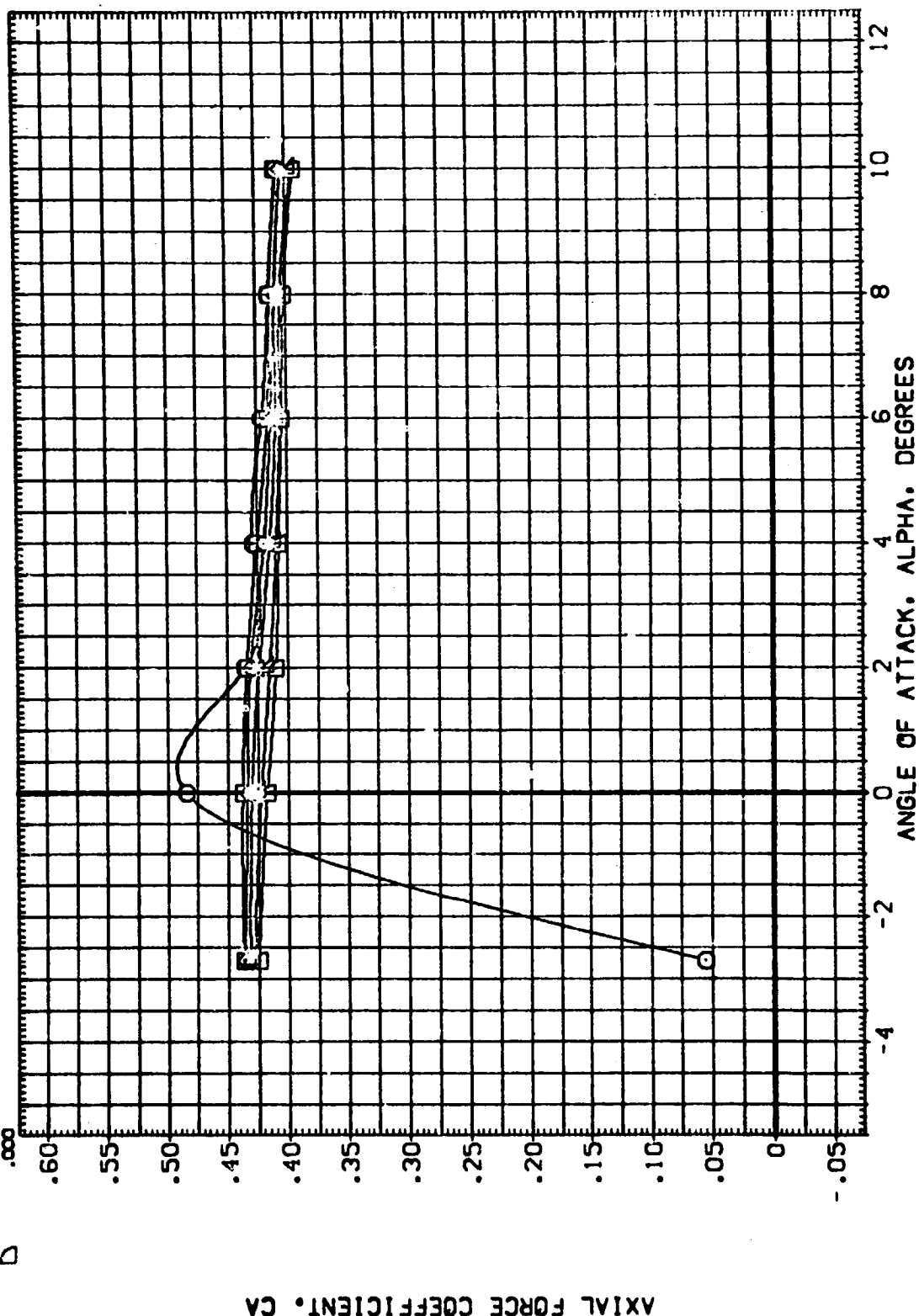


FIG. 6 LVA (01 T12 S12 N25 AT10) , MACH = 1.1 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(1B1132)

SYMBOL
 □
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BETA
 2.000
 4.000
 6.000
 8.000
 10.000

MACH
 RUDDER

PARAMETRIC VALUES
 1.100 ELEVON
 .000 SPOILER

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7080 IN.
 BREF 38.7080 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

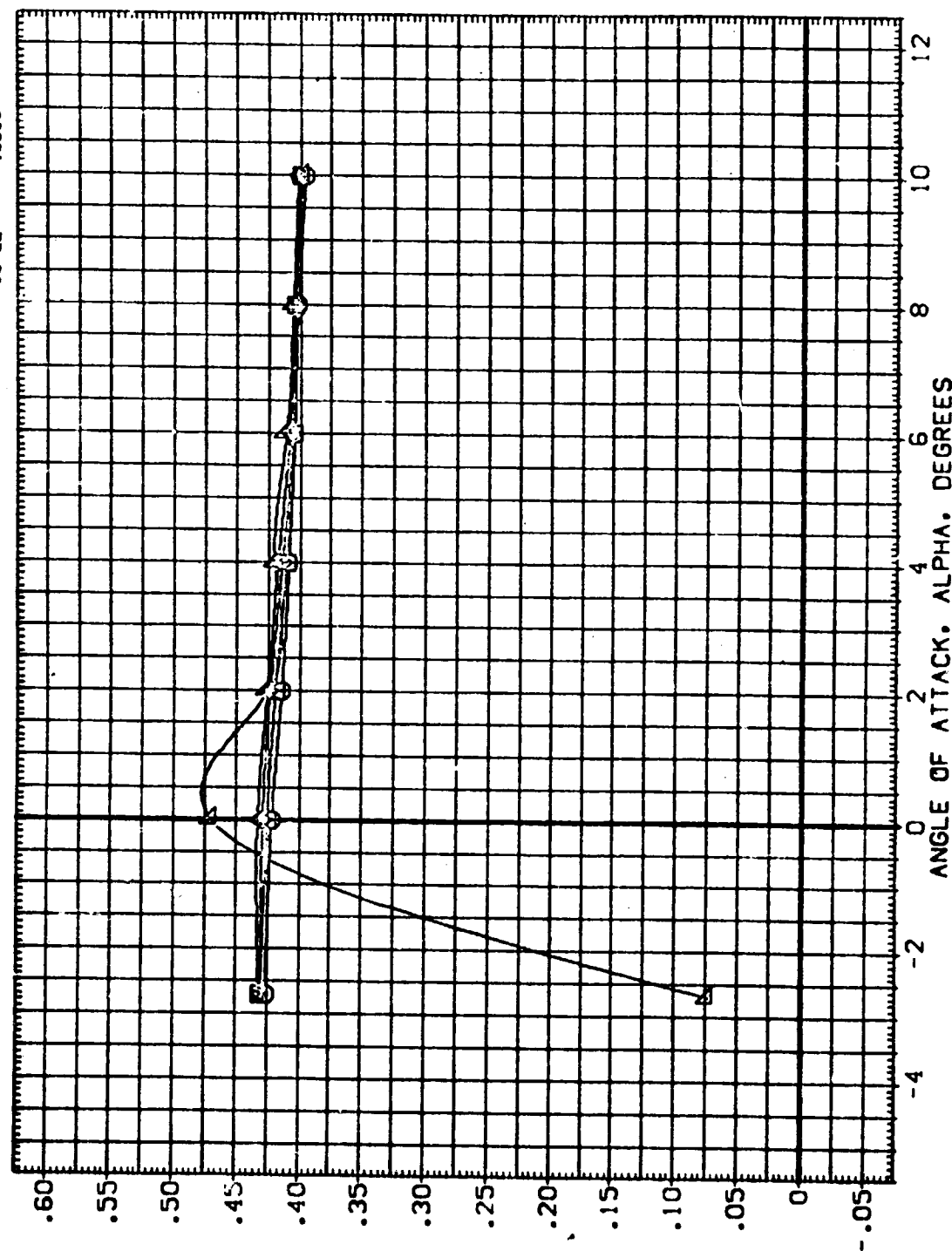


FIG. 6 LVA (01 T12 S12 N25 AT10) , MACH = 1.1 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(1B1132)

SYMBOL	BETA	MACH	RUDDER	PARAMETRIC VALUES	REFERENCE INFORMATION
□	-10.000	1.100	ELEVON	SREF	2.4210
◇	-8.000	.000	SPDBRK	LREF	38.7090
◇	-6.000	.000		BREF	38.7090
◇	-4.000	.000		XMRP	.0000
◇	-2.000	.000		YMRP	.0000
◇	.000	.000		ZMRP	9.9900
				SCALE	.0300

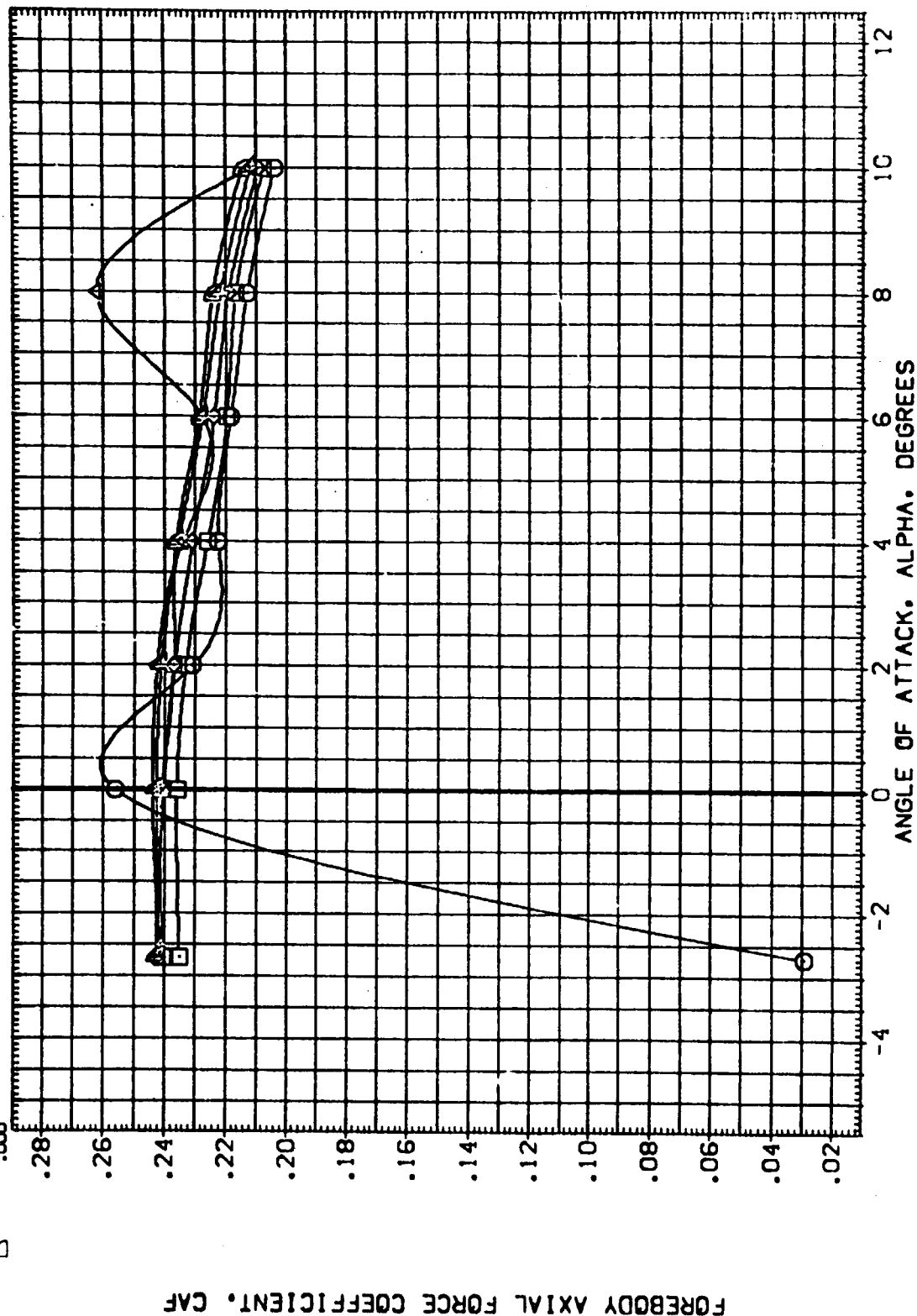


FIG. 6 LVA (01 T12 S12 N25 AT10) , MACH = 1.1 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(1B1132)

SYMBOL
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 ◇
 △
 ▽

BETA
 2.000
 4.000
 6.000
 8.000
 10.000

MACH
 RUDDER
 1.100
 .000
 .000
 .000

PARAMETRIC VALUES
 1.100
 .000
 .000
 .000

REFERENCE INFORMATION
 SPREF 2.4210 SQ.FT.
 LPREF 38.7050 IN.
 BRPF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.5900 IN.
 SCALE .0300

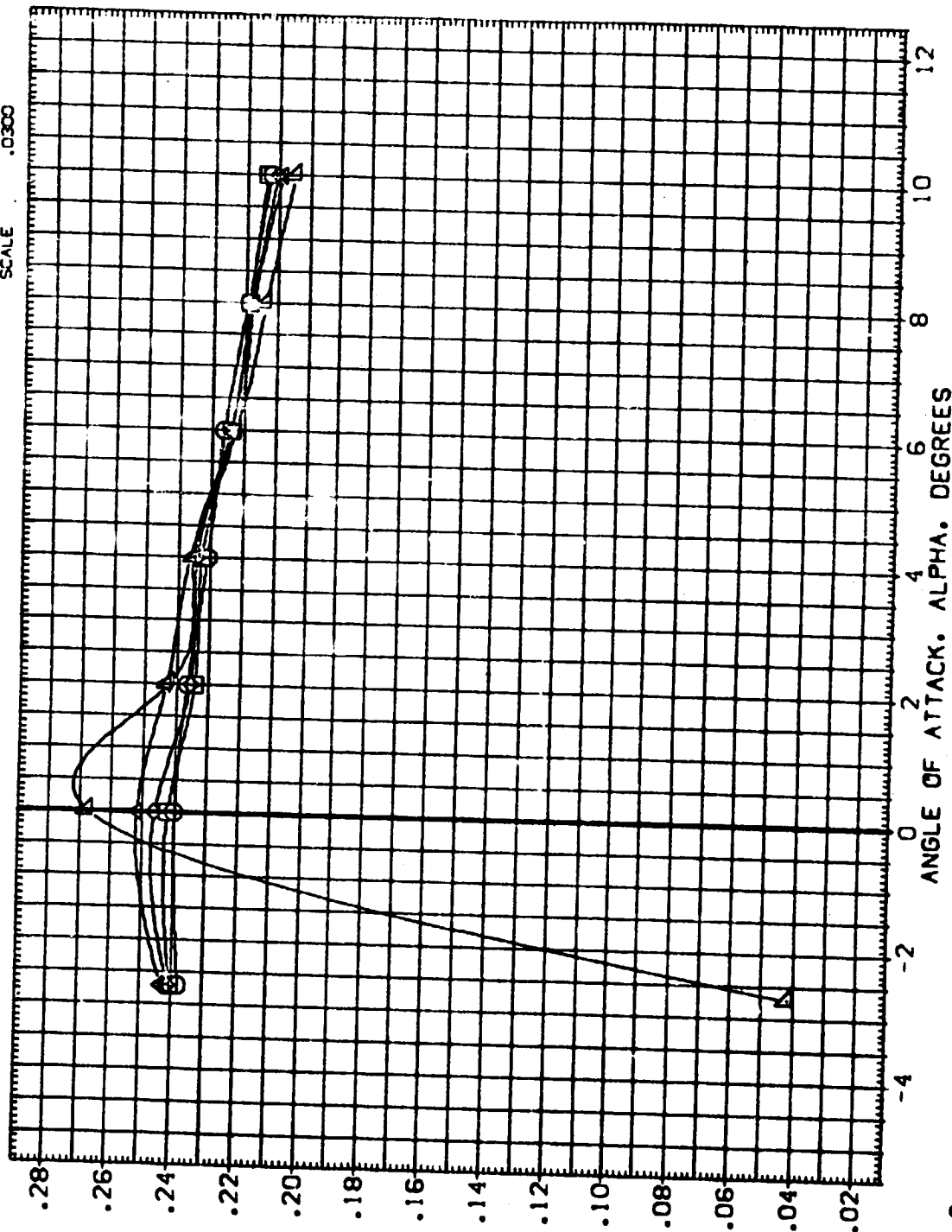


FIG. 6 LVA (01 T12 S12 N25 AT10) , MACH = 1.1 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(1B1132)

SYMBOL
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BETA
 -10.000
 -8.000
 -6.000
 -4.000
 -2.000
 .000

MACH
 1.100
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 SPDRYK

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9500
 SCALE .0300

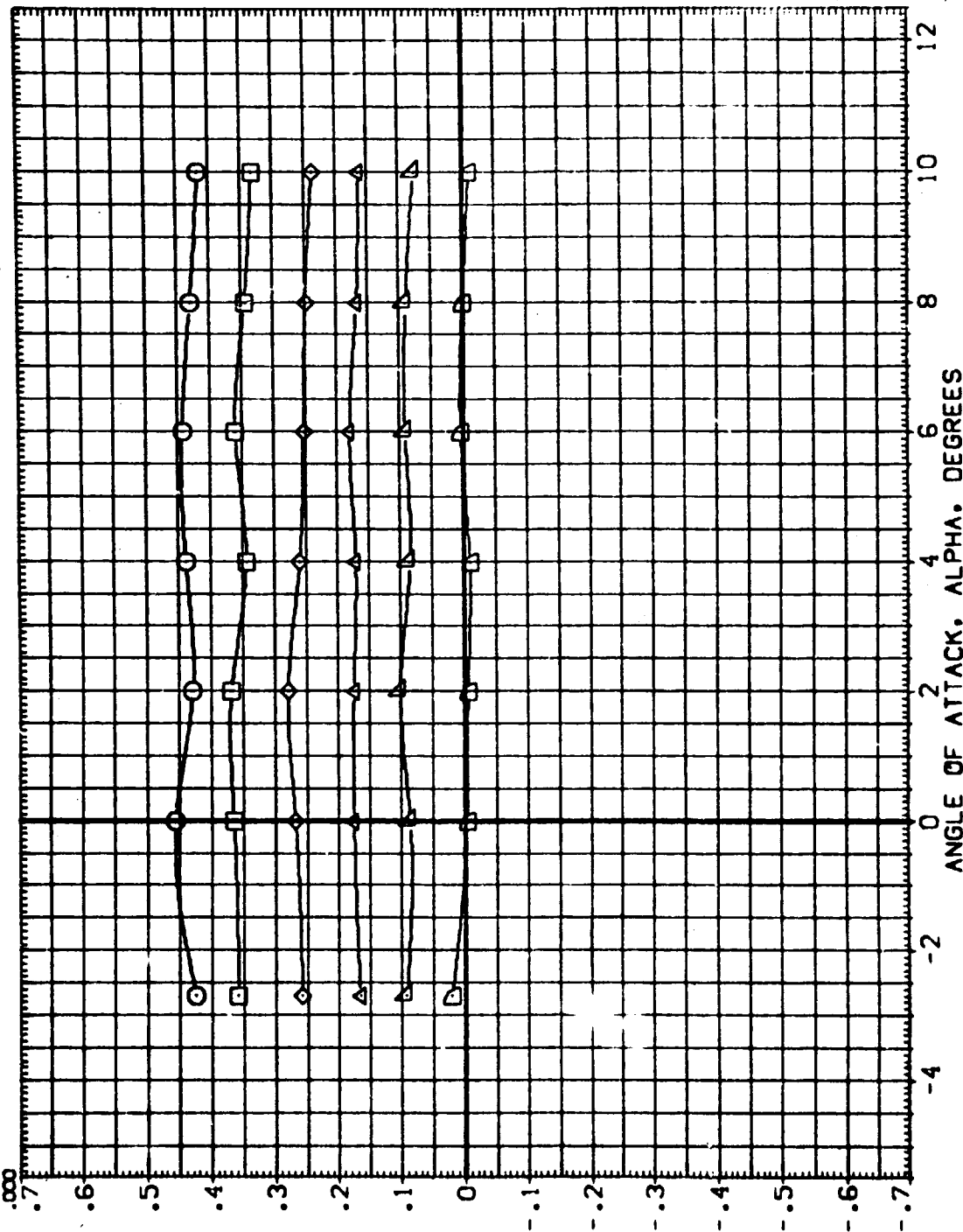


FIG. 6 LVA (01 T12 S12 N25 AT10) • MACH = 1.1 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE) (1B1132)

SYMBOL	PARAMETRIC VALUES		REFERENCE INFORMATION	
	BETA	MACH	SREF	SD, FT.
□	2.000	1.100	LREF	38.7080
◇	4.000	.000	BREF	38.7080
△	6.000	.000	XREF	.0000
▽	8.000	.000	YREF	.0000
∇	10.000	.000	ZREF	9.9850
			SCALE	.0300

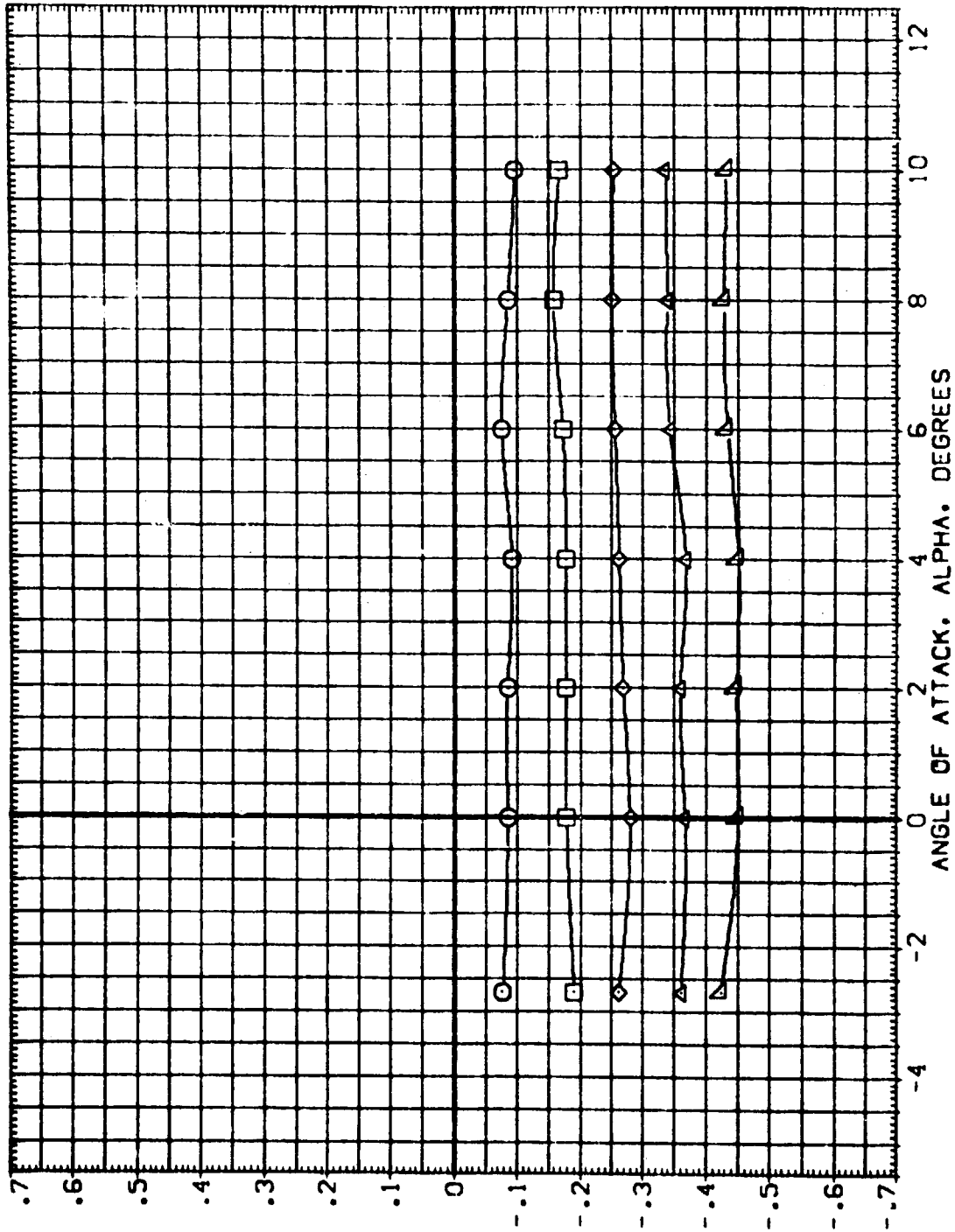


FIG. 6 LVA (01 T12 S12 N25 AT10) , MACH = 1.1 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE) (181132)

SYMBOL
 □
 ○
 △
 ◇
 ◻
 ○

BETA
 -10.000
 -8.000
 -6.000
 -4.000
 -2.000
 .000

MACH
 1.100
 1.000
 .000

PARAMETRIC VALUES
 ELEVON
 SPDRK

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9500 IN.
 SCALE .0300

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)

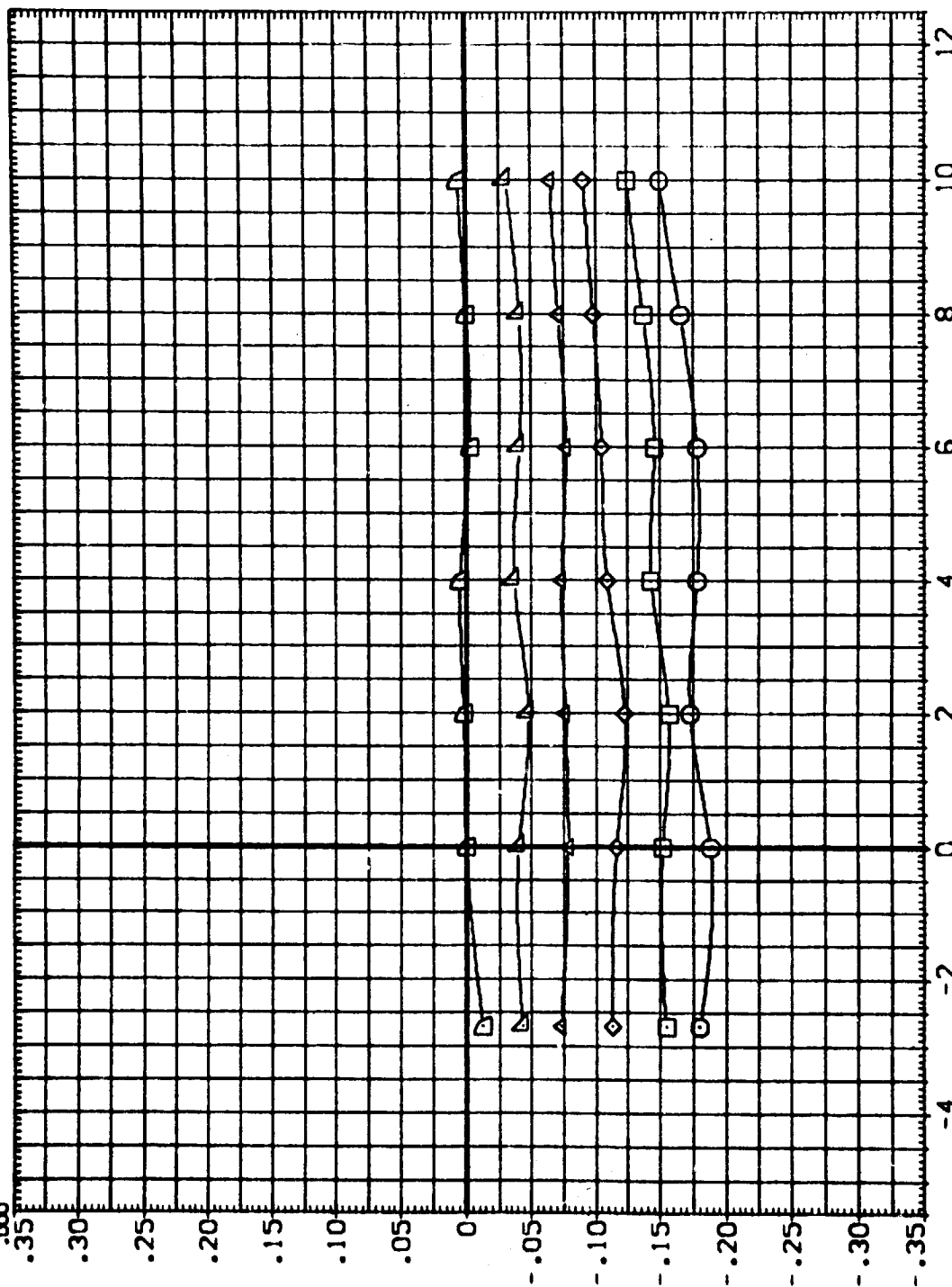


FIG. 6 LVA (01 T12 S12 N25 AT10) . MACH = 1.1 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(1B1132)

BETA
 2.000
 4.000
 6.000
 8.000
 10.000

PARAMETRIC VALUES
 MACH 1.100
 ELEVON .000
 RUDDER .000
 SPDRK .000

SYMBOL
 □
 ◇
 △
 ○

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

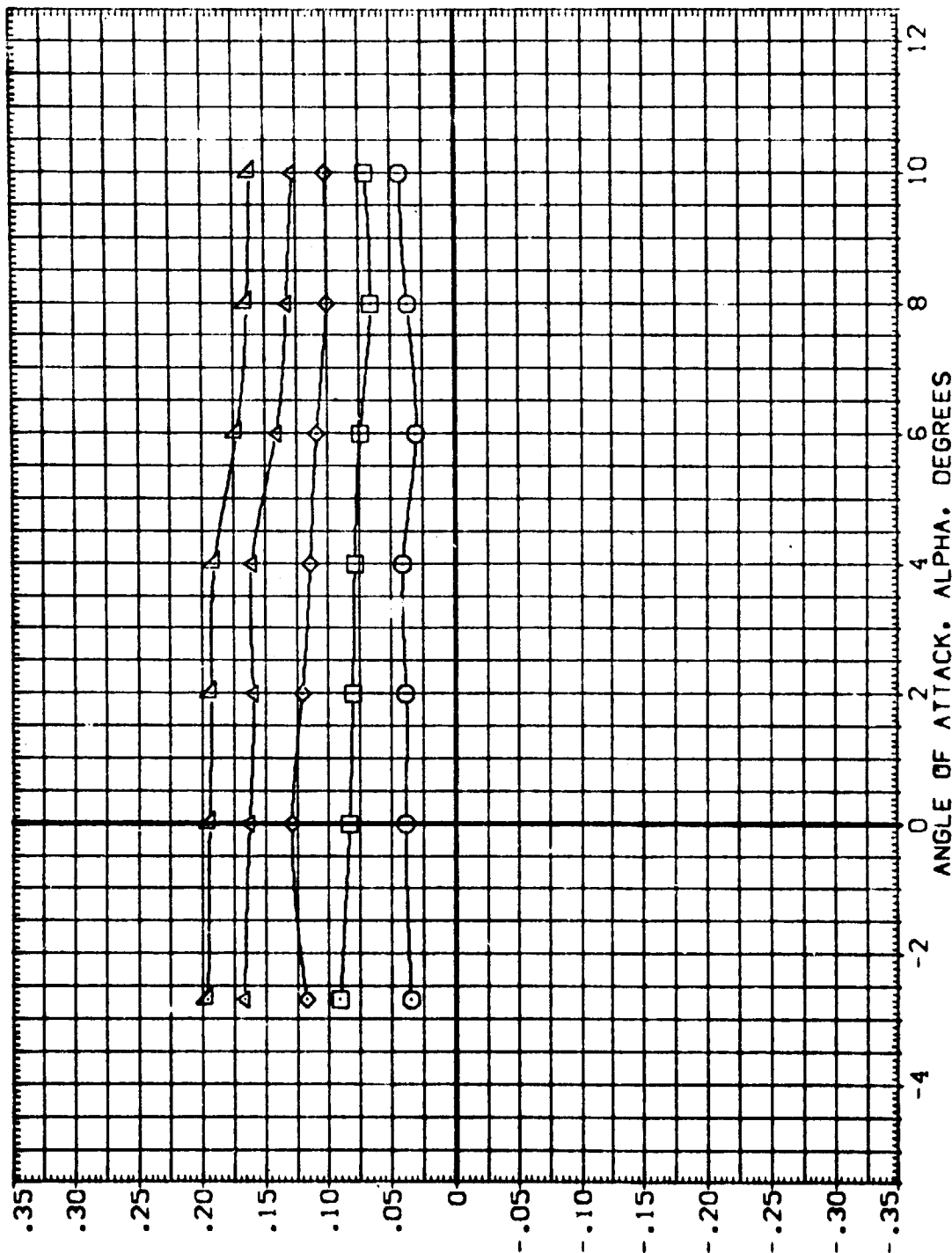


FIG. 6 LVA (01 T12 S12 N25 AT10) . MACH = 1.1 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(1B1132)

SYMBOL
 ▽
 ◊
 □
 ○
 △

BETA
 -10.000
 -8.000
 -6.000
 -4.000
 -2.000
 .000

MACH
 RUDDER

PARAMETRIC VALUES
 1.100
 .000
 ELEVON
 .000
 SPOBRK
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

ROLLING MOMENT COEFFICIENT, CBL (BODY AXIS)

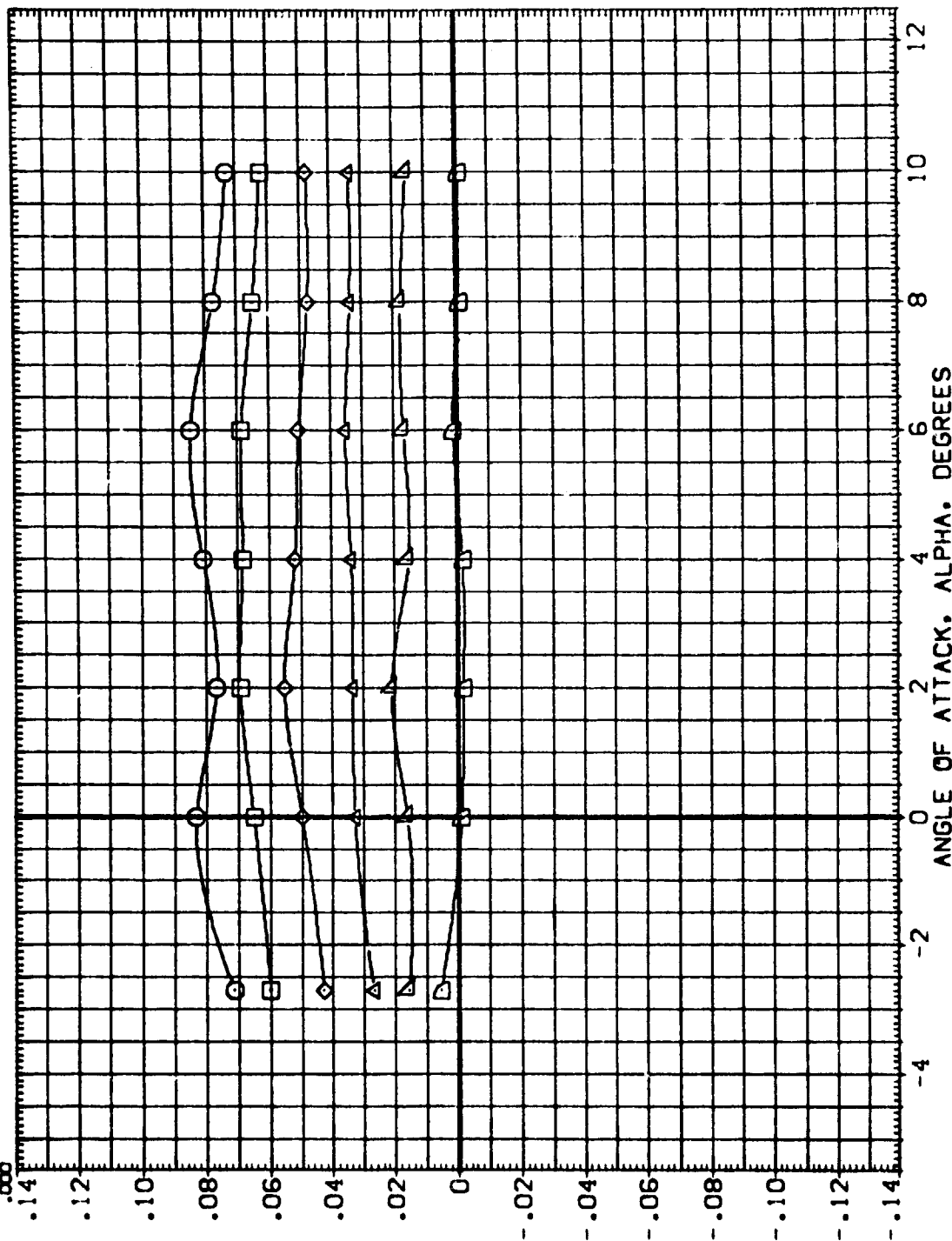


FIG. 6 LVA (01 T12 S12 N25 AT10) , MACH = 1.1 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+112+S12N25+AT10 (COMPOSITE)(1B1132)

SYMBOL	BETA	MACH	PARAMETRIC VALUES	REFERENCE INFORMATION
□	2.000	1.100	ELEVON	SREF 2.4210
◇	4.000	.000	SPDRK	LREF 38.7090
△	6.000	.000		BREF 38.7090
▽	8.000	.000		XMRP .0000
	10.000	.000		YMRP .0000
				ZMRP 9.9900
				SCALE .0300
				SD.FT. IN.

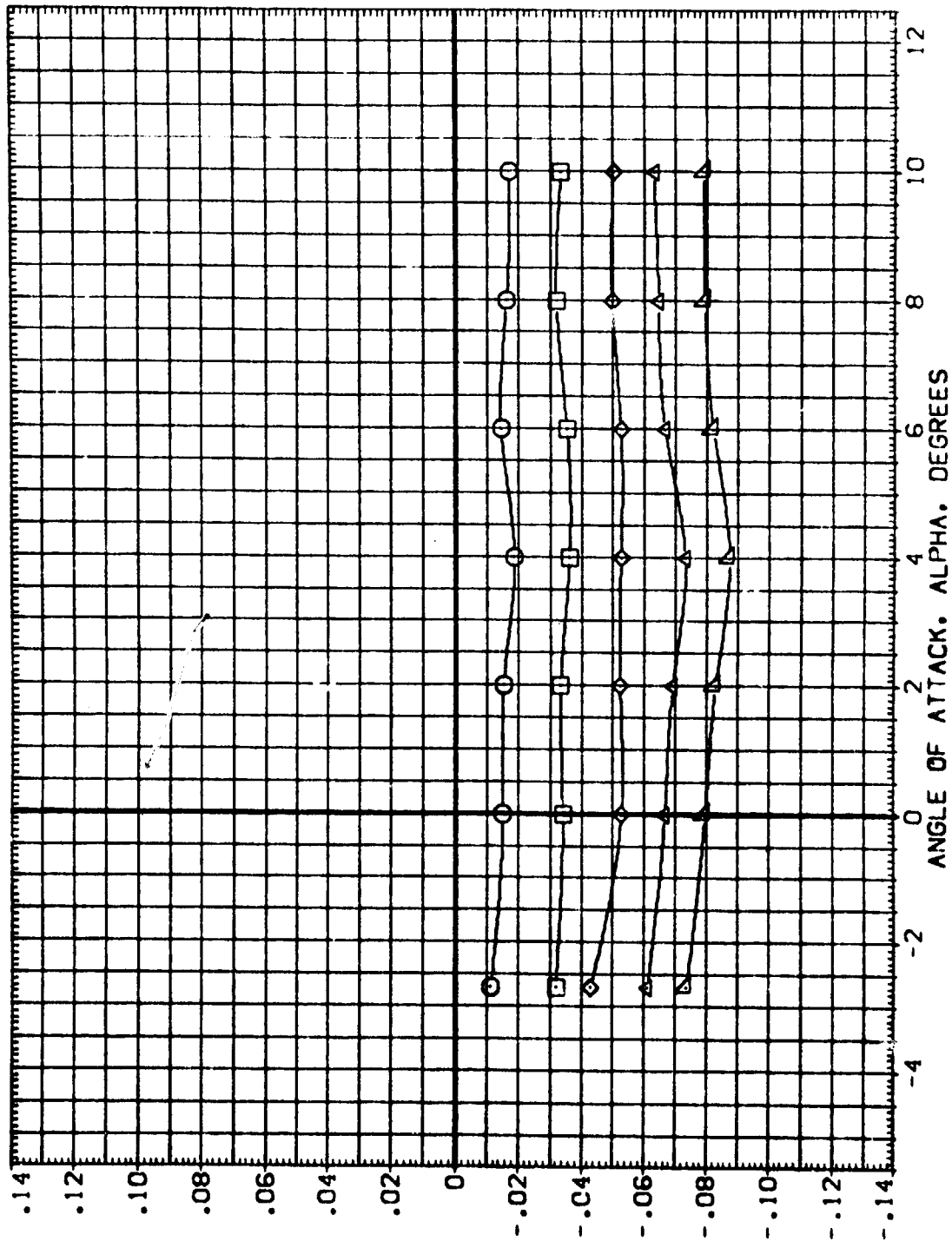


FIG. 6 LVA (01 112 S12 N25 AT10) , MACH = 1.1 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(IB1133)

SYMBOL		PARAMETRIC VALUES		REFERENCE INFORMATION	
BETA		MACH	ELEVON	SREF	50.FT.
-10.000		1.248	.000	LREF	2.4210
-8.000			.000	BREF	38.7080
-6.000				XMRP	38.7050
-4.000				YMRP	.0000
-2.000				ZMRP	9.9900
				SCALE	.0300

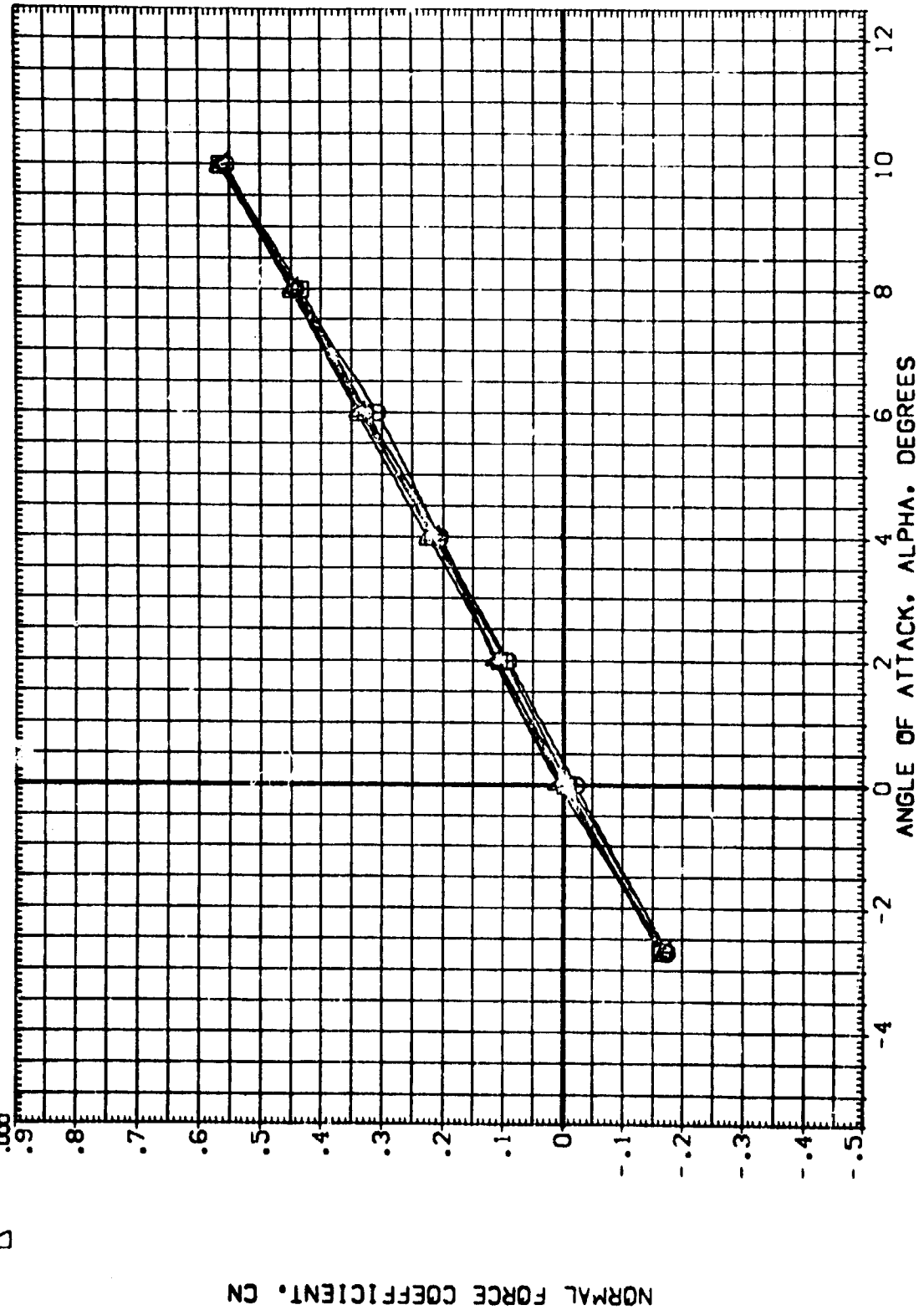


FIG. 7 LVA (01 T12 S12 N25 AT10) , MACH = 1.25 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE) (IB1133)

SYMBOL
○ □ ◇ △ ▽

PARAMETRIC VALUES	
BETA	MACH
2.000	1.248
4.000	.000
6.000	.000
8.000	.000
10.000	.000

REFERENCE INFORMATION	
	SO. FT.
SREF	2.4210
LREF	38.7050
BREF	38.7050
XMRP	.0000
YMRP	.0000
ZMRP	9.5500
SCALE	.0300

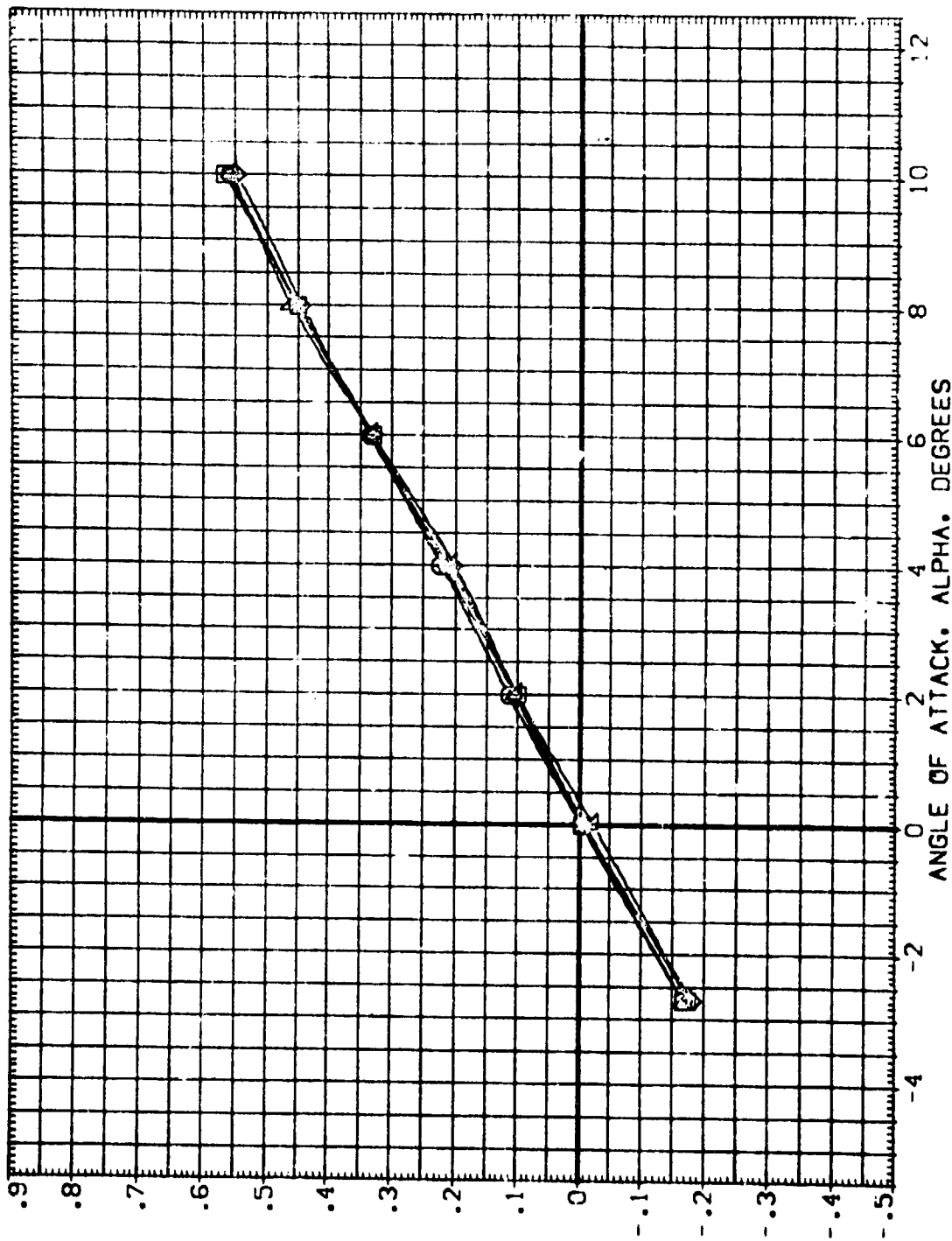


FIG. 7 LVA (01 T12 S12 N25 AT10) . MACH 1.25 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+112+S12N25+AT10 (COMPOSITE)(1B1133)

SYMBOL	BETA		PARAMETRIC VALUES		REFERENCE INFORMATION	
	MACH	RUDER	1.248	ELEVON	SREF	SQ.FT.
□	-10.000		.000	.000	LREF	2.4210
◇	-8.000		.000	.000	BREF	38.7080
△	-6.000		.000	.000	XREF	38.7080
▽	-4.000		.000	.000	YREF	.0000
◊	-2.000		.000	.000	ZREF	.0000
○	.000		.000	.000	SCALE	9.5900

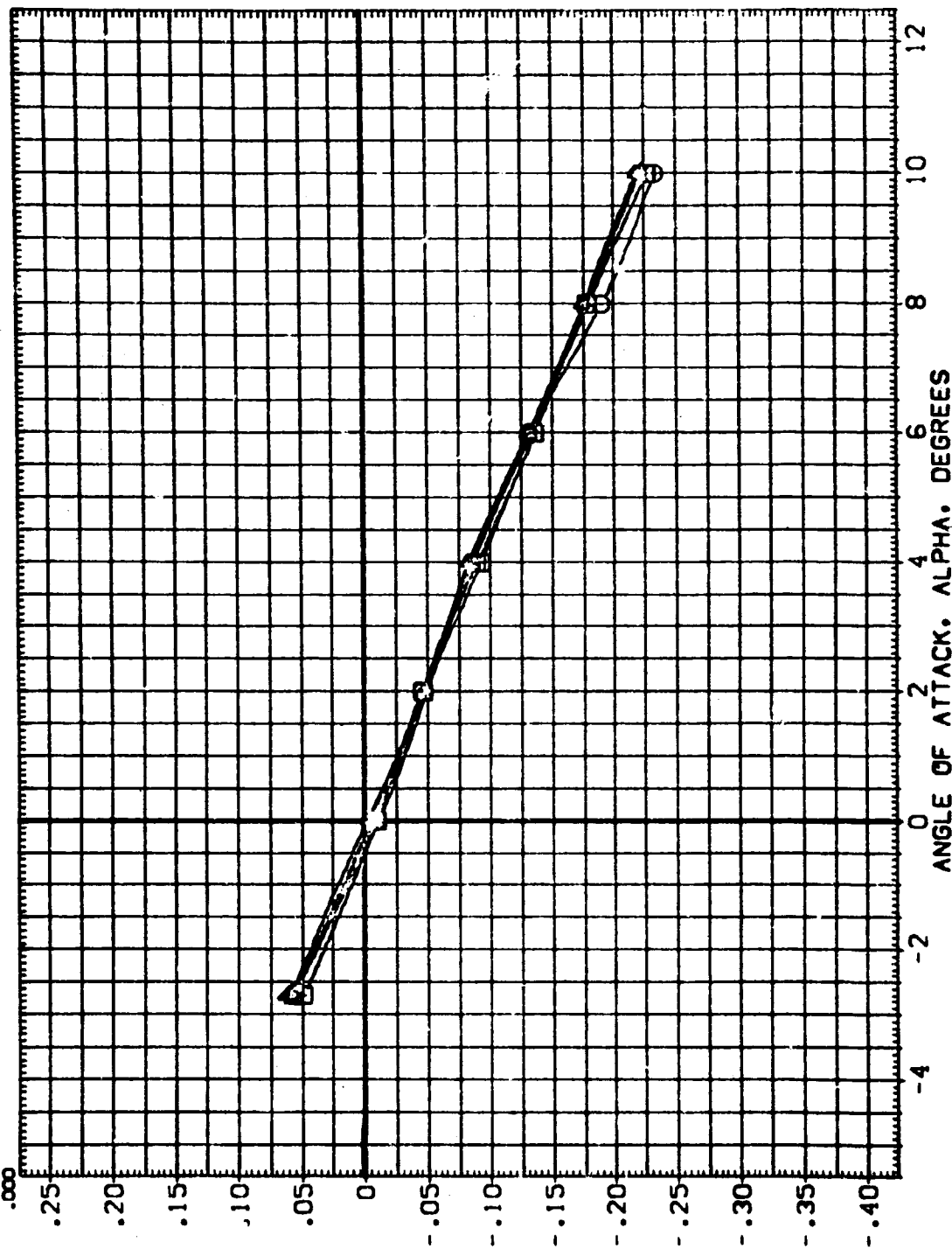


FIG. 7 LVA (01 112 S12 N25 AT10) , MACH = 1.25 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(181133)

SYMBOL	BETA		PARAMETRIC VALUES		REFERENCE INFORMATION	
	2.000	MACH	1.248	ELEVON	SREF	2.4210
○	4.000	RUDER	.000	SPDBRK	LREF	38.7080
□	6.000				BREF	38.7080
△	8.000				XMRP	.0000
▽	10.000				YMRP	.0000
					ZMRP	9.9800
					SCALE	.0300

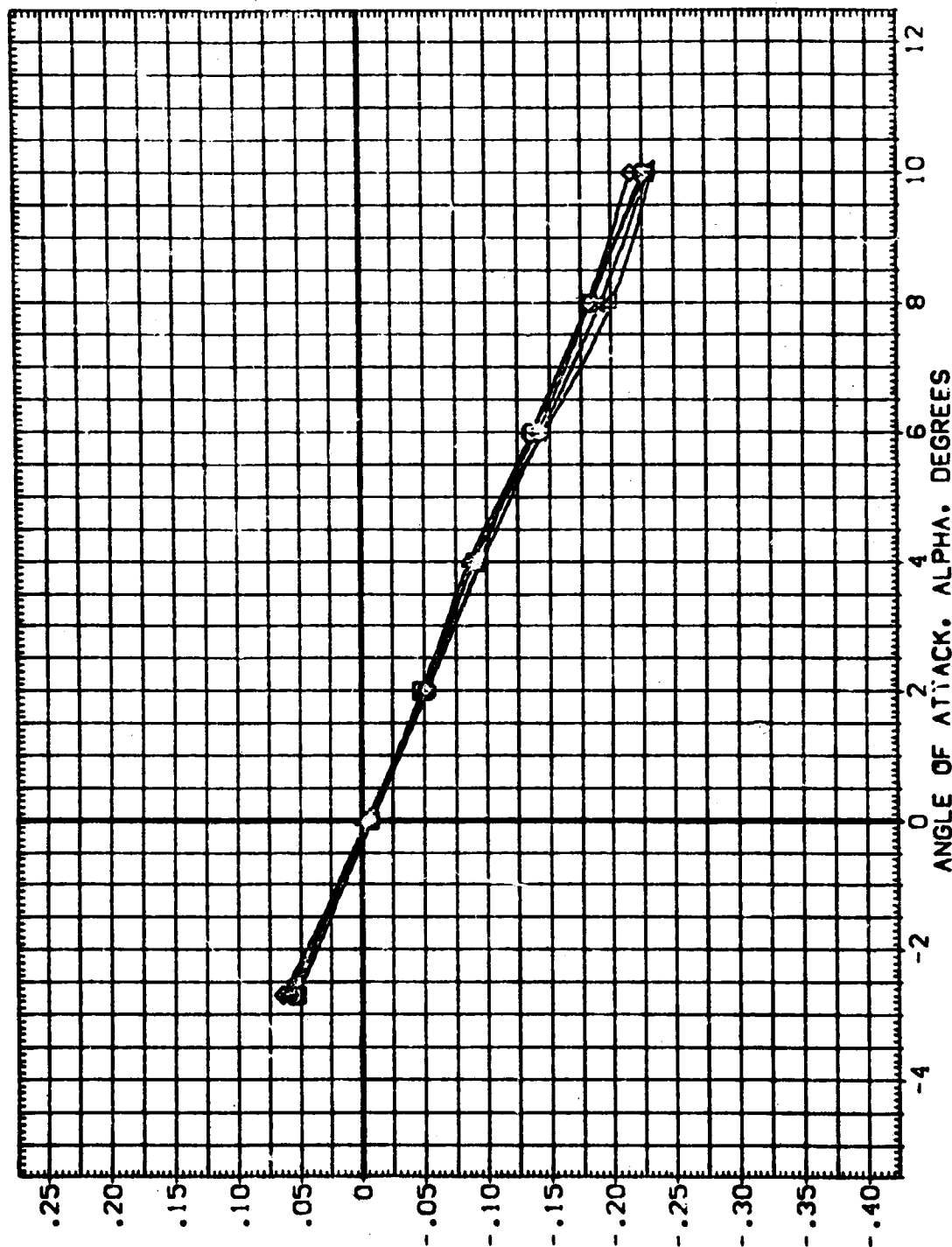


FIG. 7 LVA (01 T12 S12 N25 AT10) , MACH = 1.25 (COMPOSITE BALANCE)

REFERENCE INFORMATION		50. FT.
SREF	2.4210	IN.
LREF	38.7050	IN.
BREF	38.7050	IN.
XREF	0.000	IN.
YREF	0.000	IN.
ZREF	9.9900	IN.
SCALE	0.030	

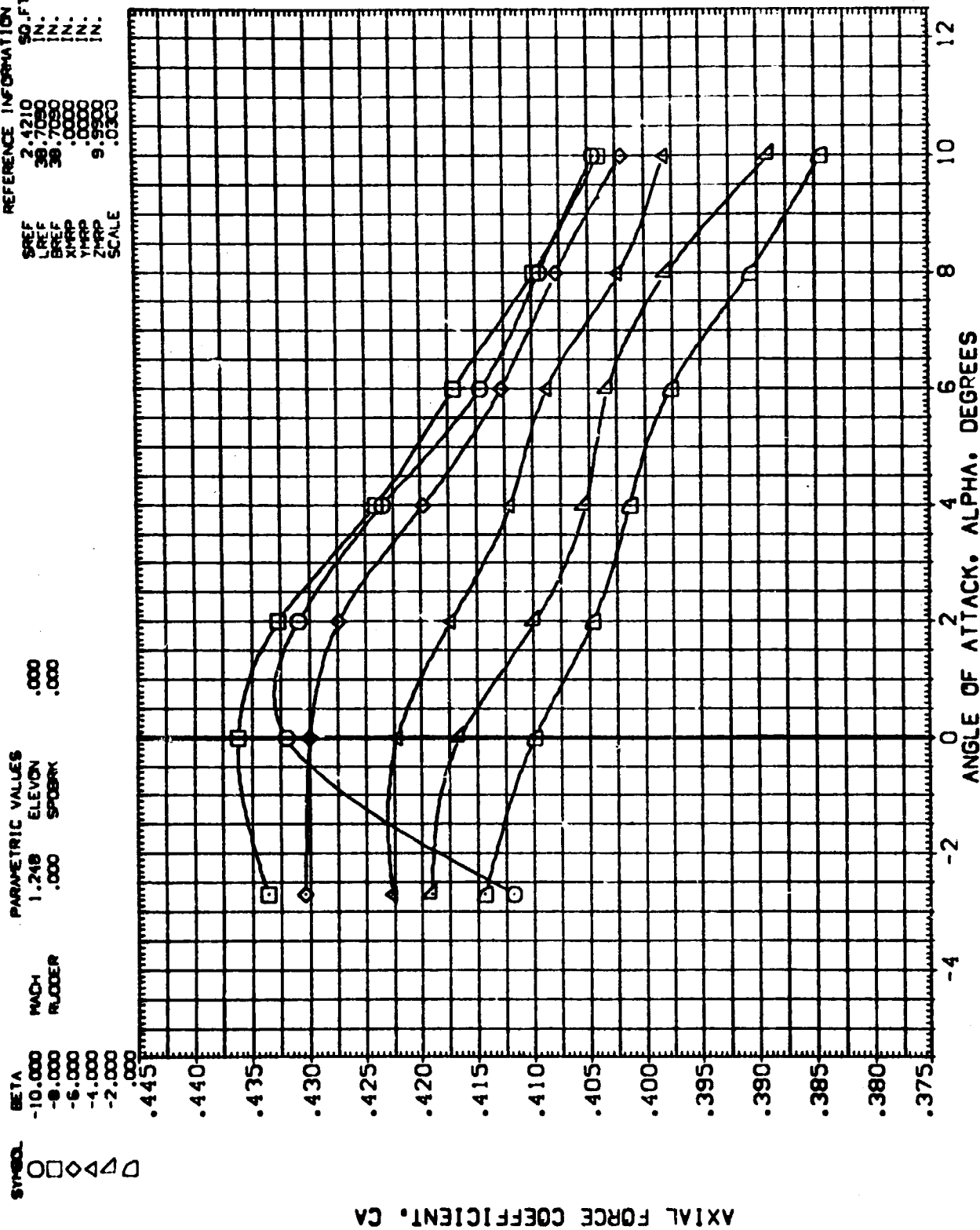


FIG. 7 LVA (01 T12 S12 N25 AT10) , MACH = 1.25 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(1B1133)

SYMBOL
□ ◇ △

BETA
2.000
4.000
6.000
8.000
10.000

MACH
RUDDER

PARAMETRIC VALUES
1.240 ELEVON .000
.000 SPOON .000

REFERENCE INFORMATION
SREF 2.4210 SQ.FT.
LREF 38.7090 IN.
BREF 38.7090 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9223 IN.
SCALE .0300

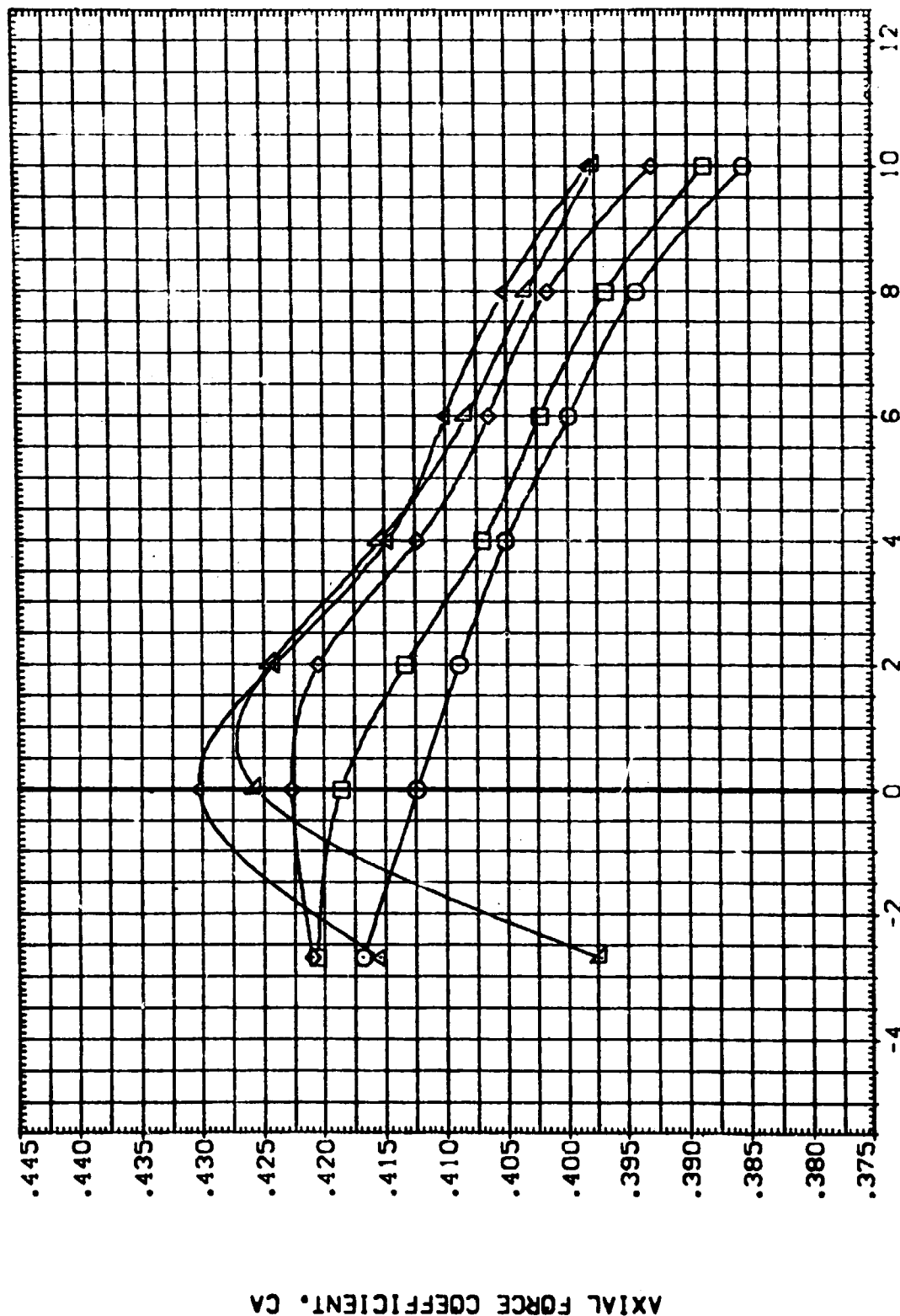


FIG. 7 LVA (01 T12 S12 N25 AT10) . MACH = 1.25 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(181133)

SYMBOL
 ▽
 ◊
 □
 ○

BETA
 -10.000
 -8.000
 -6.000
 -4.000
 -2.000
 .000

PARAMETRIC VALUES
 MACH 1.248
 RUDDER .000
 ELEVON .000
 SPDBRK .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

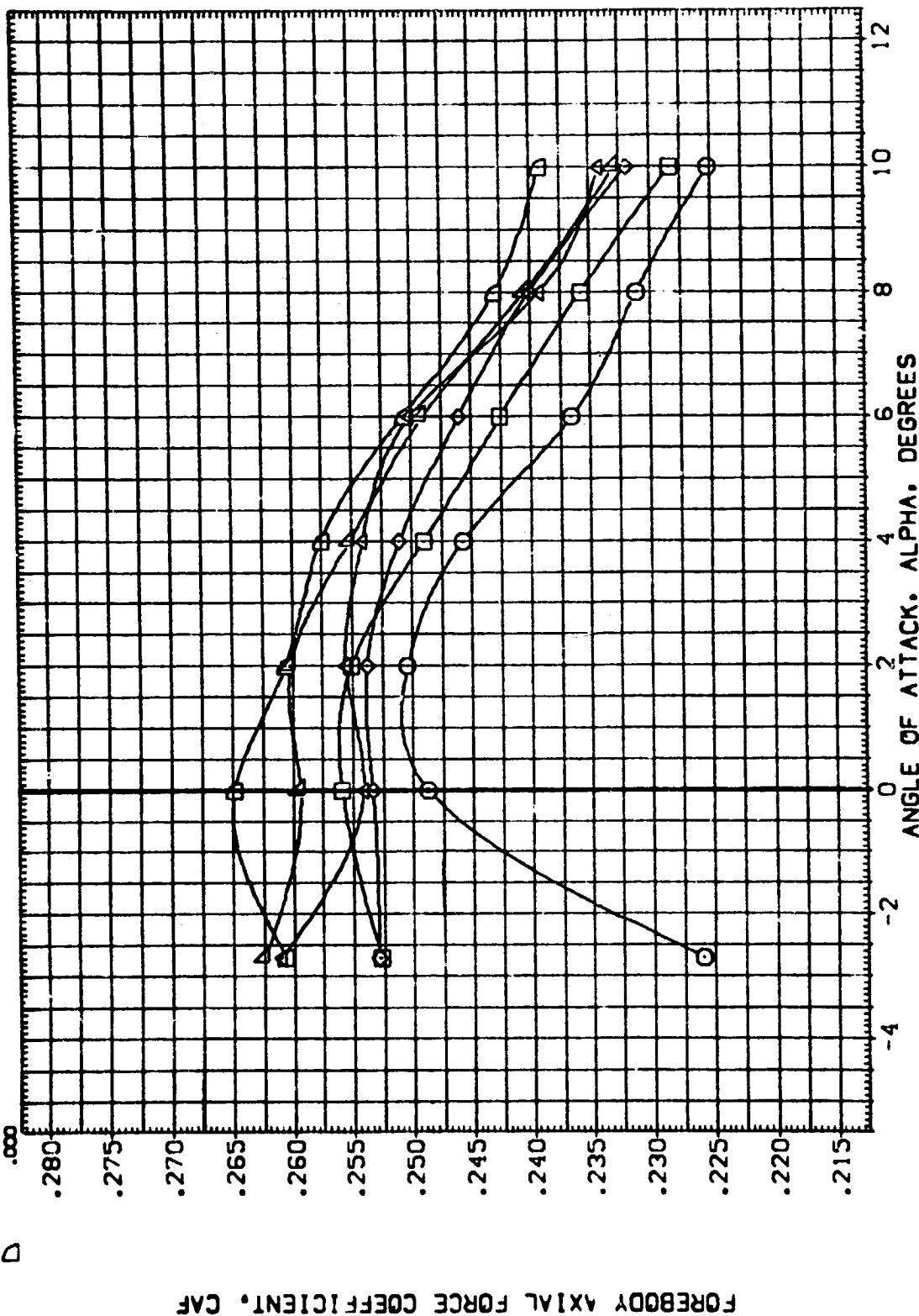


FIG. 7 LVA (01 T12 S12 N25 AT10) • MACH = 1.25 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE) (181133)

SYMBOL
 2.000
 4.000
 6.000
 8.000
 10.000

PARAMETRIC VALUES
 MACH 1.248
 RUDDER .000
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 30.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9500
 SCALE .0300

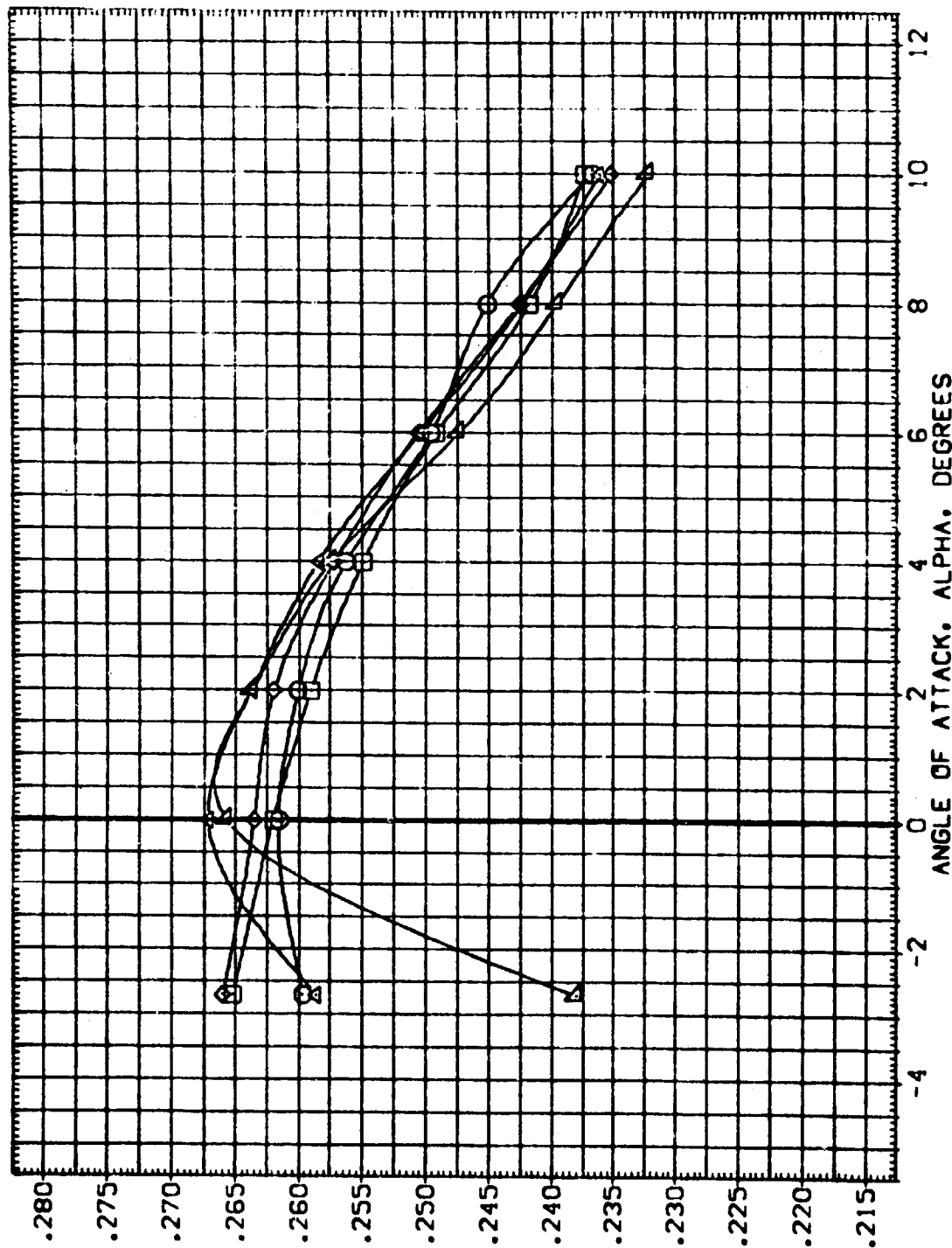


FIG. 7 LVA (01 T12 S12 N25 AT10) . MACH = 1.25 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(1B1133)

SYMBOL
 1 2 3 4 5 6 7 8 9 10 11 12

BETA
 -10.000
 -8.000
 -6.000
 -4.000
 -2.000
 .000

PARAMETRIC VALUES
 MACH 1.248
 RUDDER .000
 ELEVON .000
 SPOON .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 YMRP .0000
 ZMRP .0000
 SCALE 9.9500
 SQ.FT. IN. IN. IN. IN.

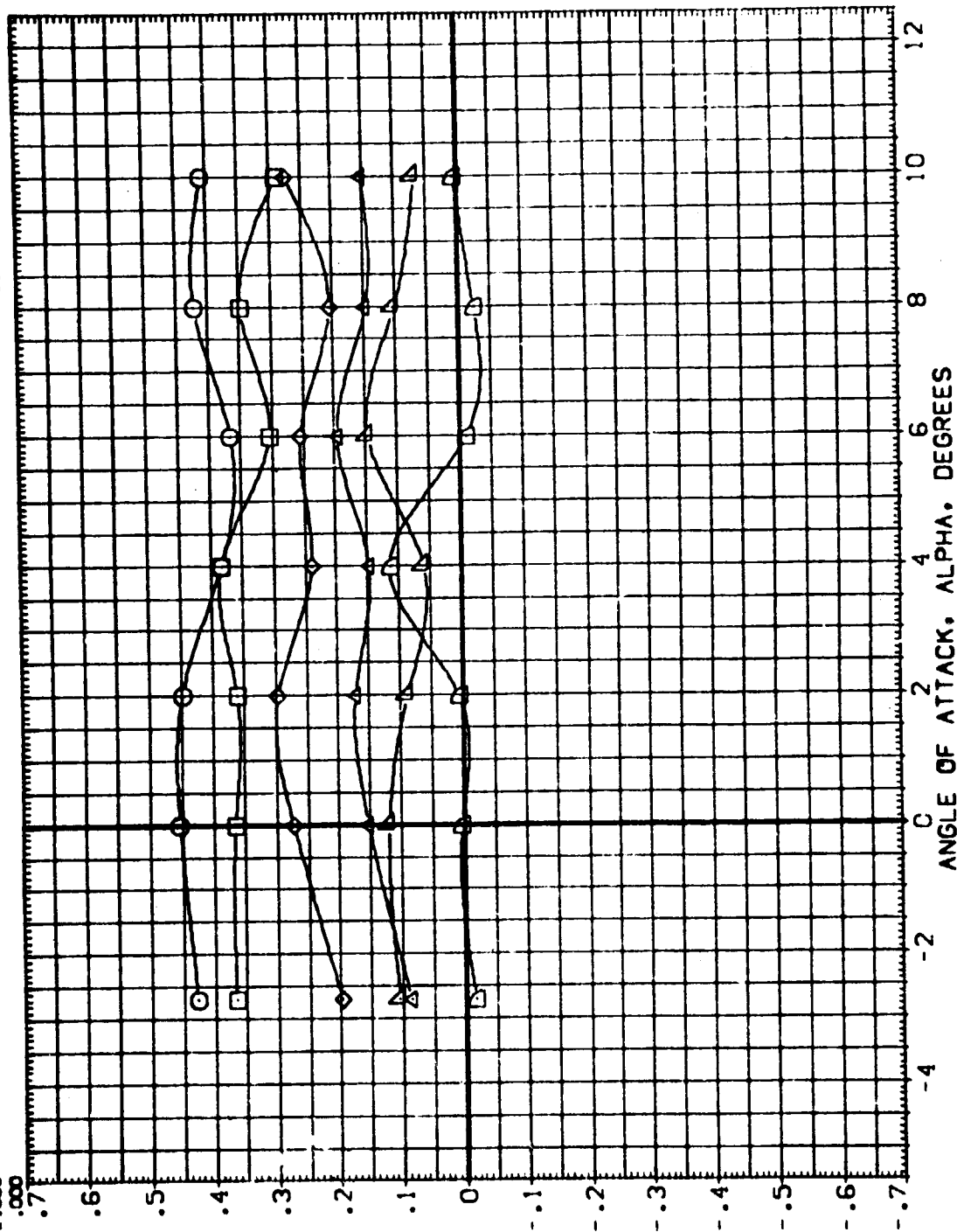


FIG. 7 LVA (01 T12 S12 N25 AT10) • MACH = 1.25 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+112+S12N25+AT10 (COMPOSITE)(1B1133)

SYMBOL
 ▽
 ◇
 □
 ○

BETA
 2.000
 4.000
 6.000
 8.000
 10.000

MACH
 RUDDER

PARAMETRIC VALUES
 1.248 ELEVON
 .000 SPOBRK

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

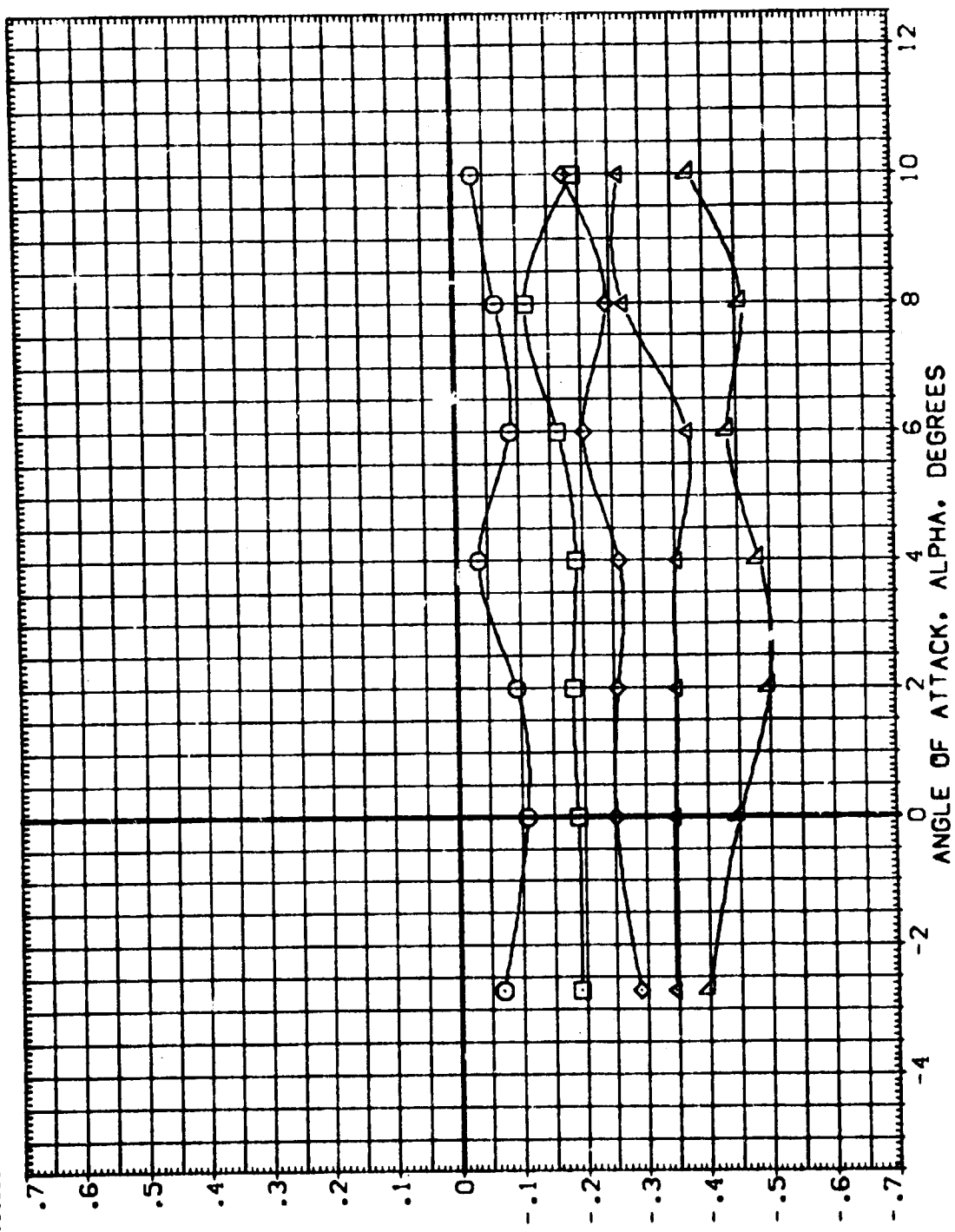


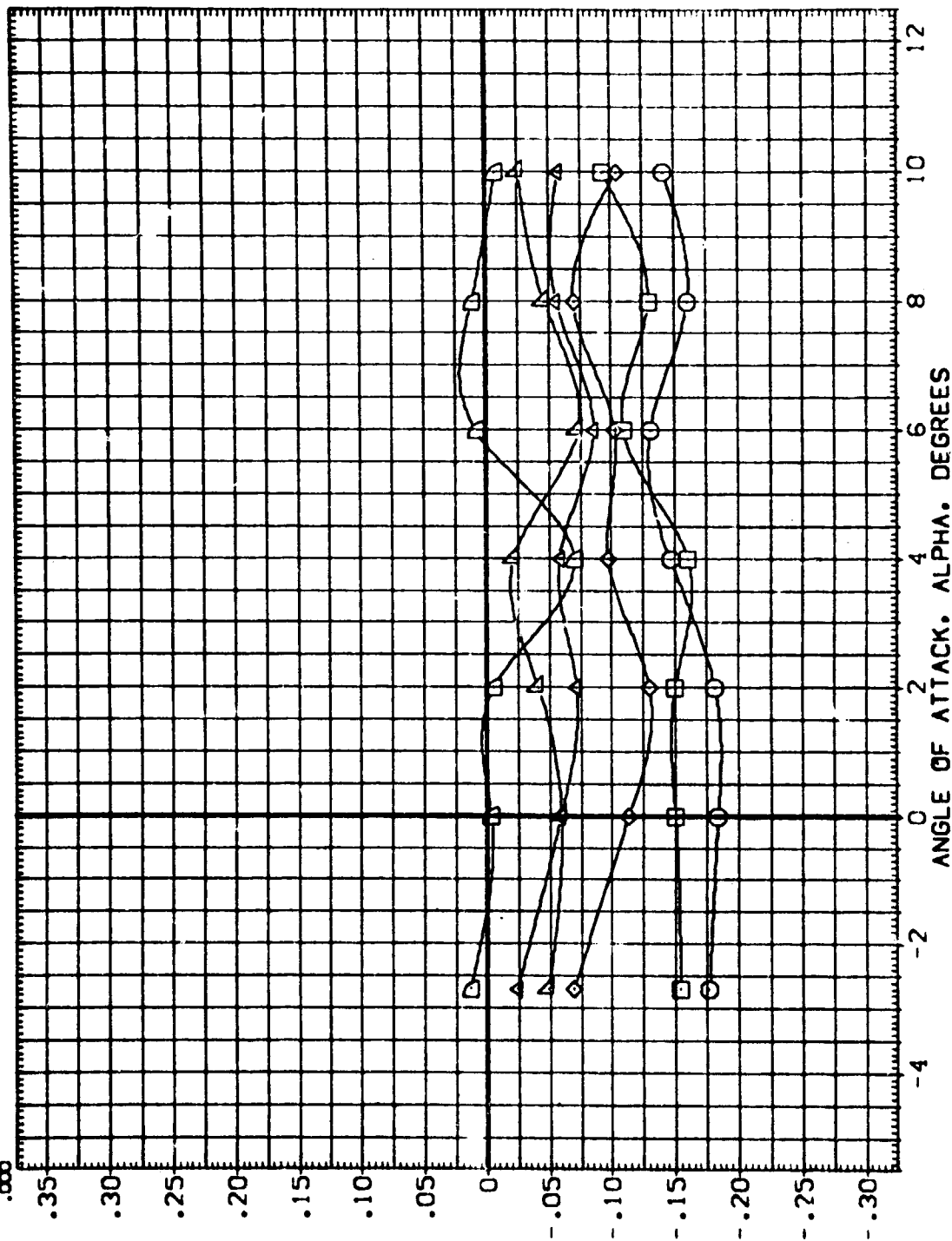
FIG. 7 LVA (01 112 S12 N25 AT10) , MACH = 1.25 (COMPOSITE BALANCE)

SYMBOL ○ □ ◇ △ ▽ ▿

BETA
-10.000
-8.000
-6.000
-4.000
-2.000
.000

PARAMETRIC VALUES

SREF	2.4210	50.FT.
LREF	38.7090	IN.
BREF	38.7090	IN.
XMRP	.0000	IN.
YMRP	.0000	IN.
ZMRP	9.9900	IN.
SCALE	.0300	



ANGLE OF ATTACK, ALPHA, DEGREES

FIG. 7 LVA (01 T12 S12 N25 AT10) , MACH = 1.25 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE) (IB1133)

SYMBOL
 ○ □ ◇ △

BETA
 2.000
 4.000
 6.000
 8.000
 10.000

PARAMETRIC VALUES
 MACH 1.248
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

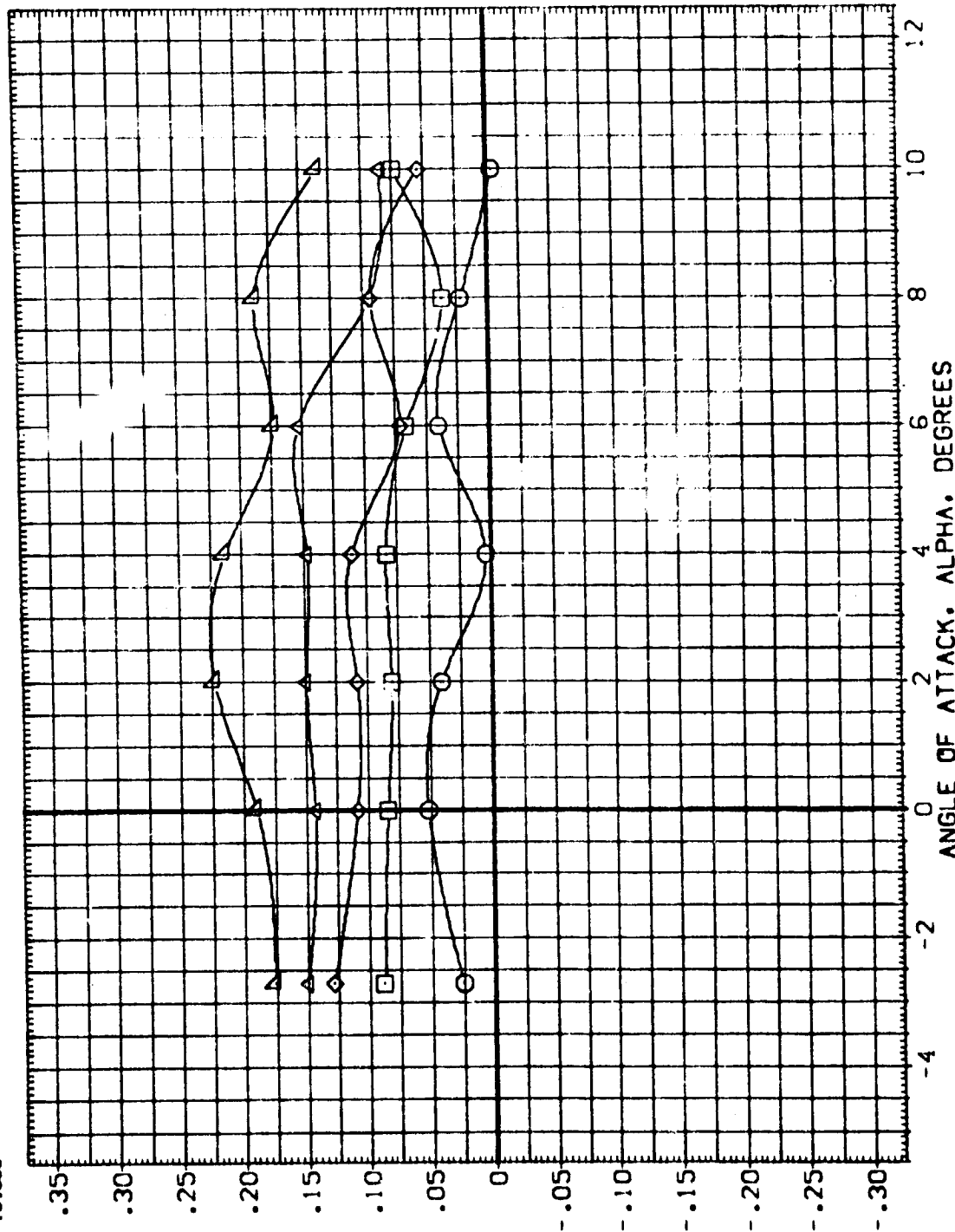


FIG. 7 LVA (01 T12 S12 N25 AT10) , MACH = 1.25 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(IB1133)

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9500 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -10.000
 MACH .000
 RUDDER .000
 ELEVON .000
 SPOBRK .000

SYMBOL
 ○ □ ◇ △ ▽

ROLLING MOMENT COEFFICIENT, CBL (BODY AXIS)

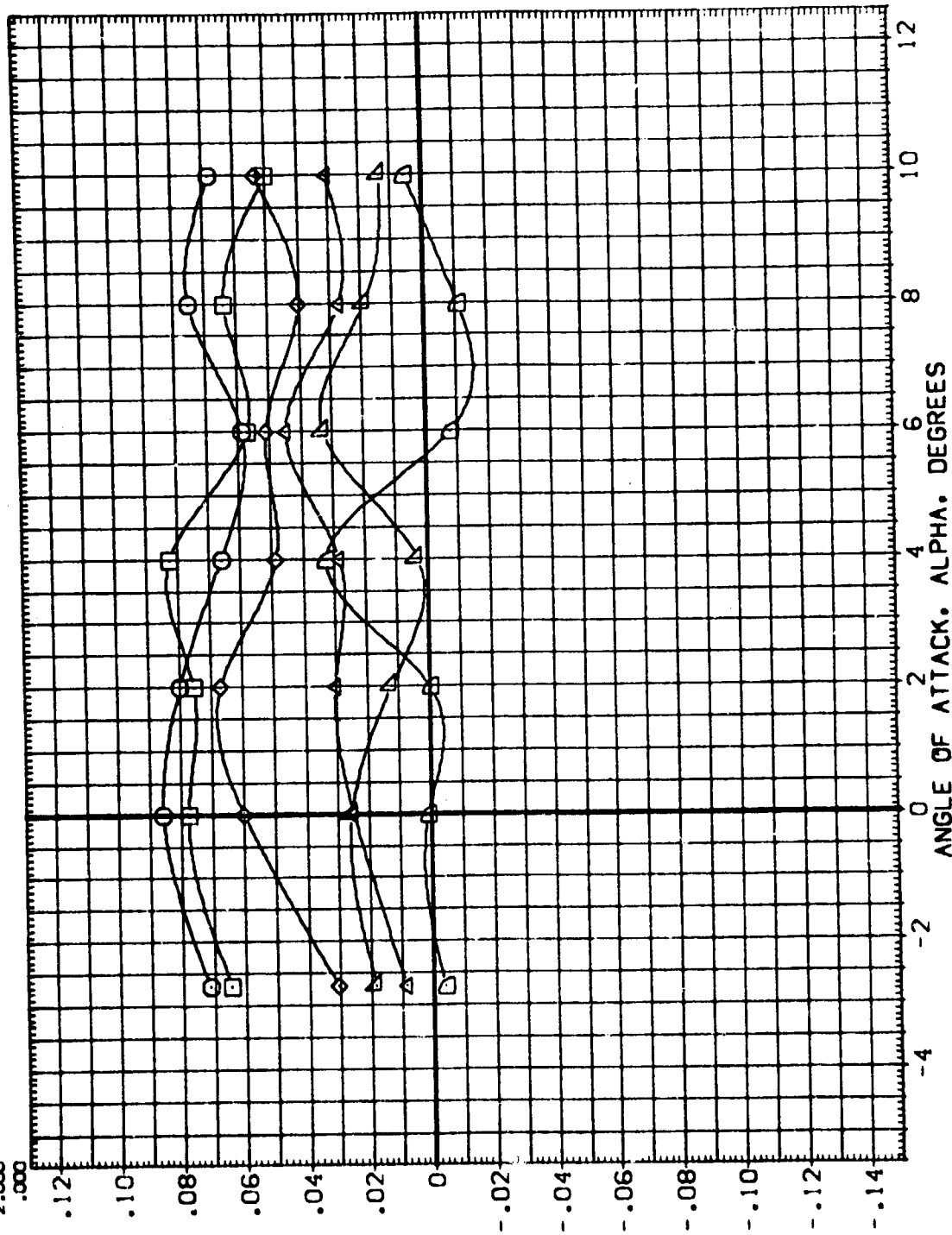


FIG. 7 LVA (01 T12 S12 N25 AT10) . MACH = 1.25 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)(IB1133)

SYMBOL	BETA		PARAMETRIC VALUES		REFERENCE INFORMATION	
	2.000	4.000	MACH	ELEVON	SREF	SO.FT.
○			1.248		LREF	IN.
□				.000	BREF	IN.
◇	6.000				XMRP	IN.
△	8.000				YMRP	IN.
	10.000				ZMRP	IN.
					SCALE	
						2.4210
						38.7090
						38.7090
						.0000
						.0000
						9.5900
						.0300

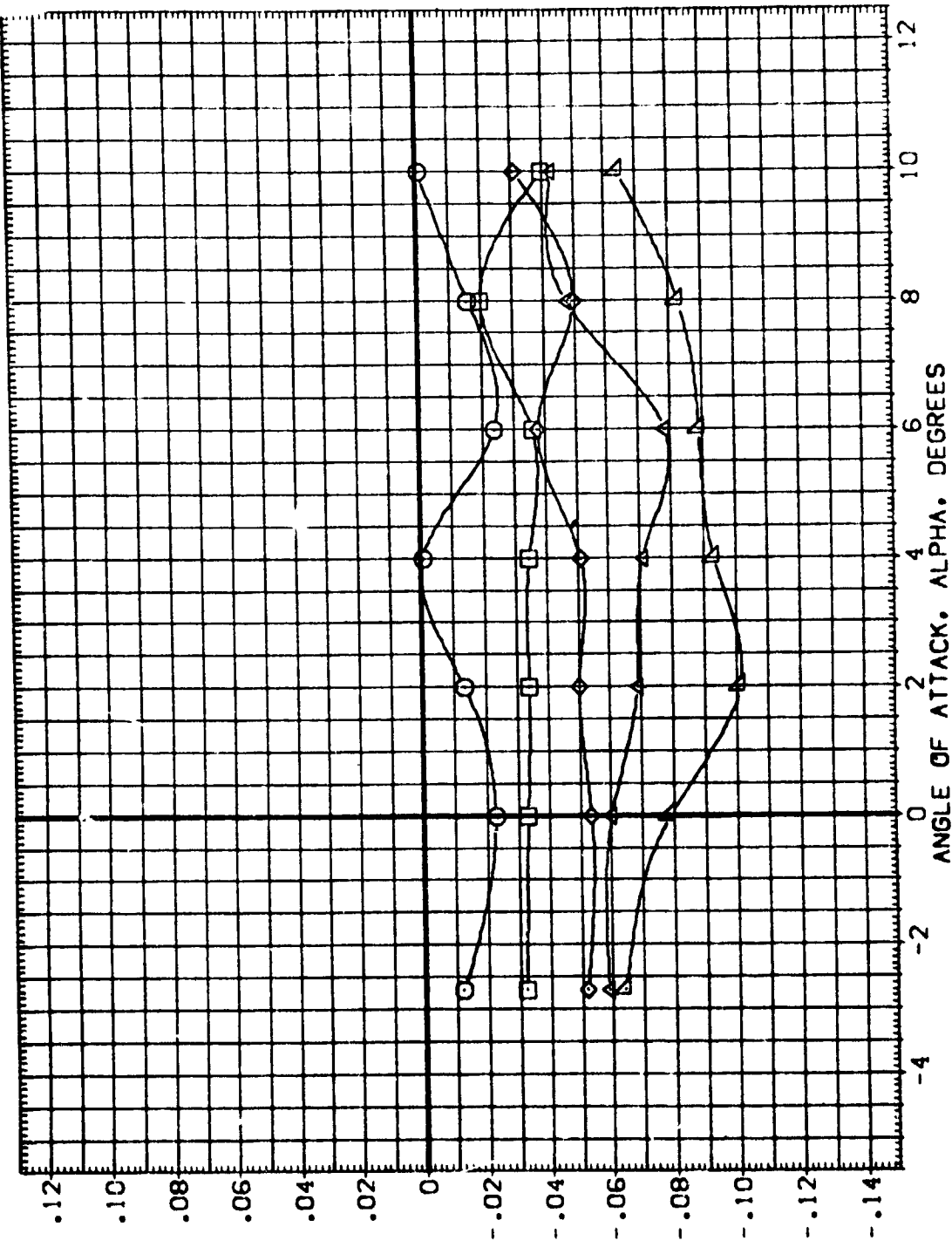


FIG. 7 LVA (01 T12 S12 N25 AT10) . MACH = 1.25 (COMPOSITE BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (IB1134)

SYMBOL	BETA		PARAMETRIC VALUES		REFERENCE INFORMATION	
	8.000	MACH	.597	ELEVON	SREF	90 FT.
□	-4.000	RUDER	.000	SPOBRK	LREF	38.7090
◇	.000				BREF	38.7090
△	4.000				XMRP	.0000
▽	8.000				YMRP	.0000
					ZMRP	9.9900
					SCALE	.0300

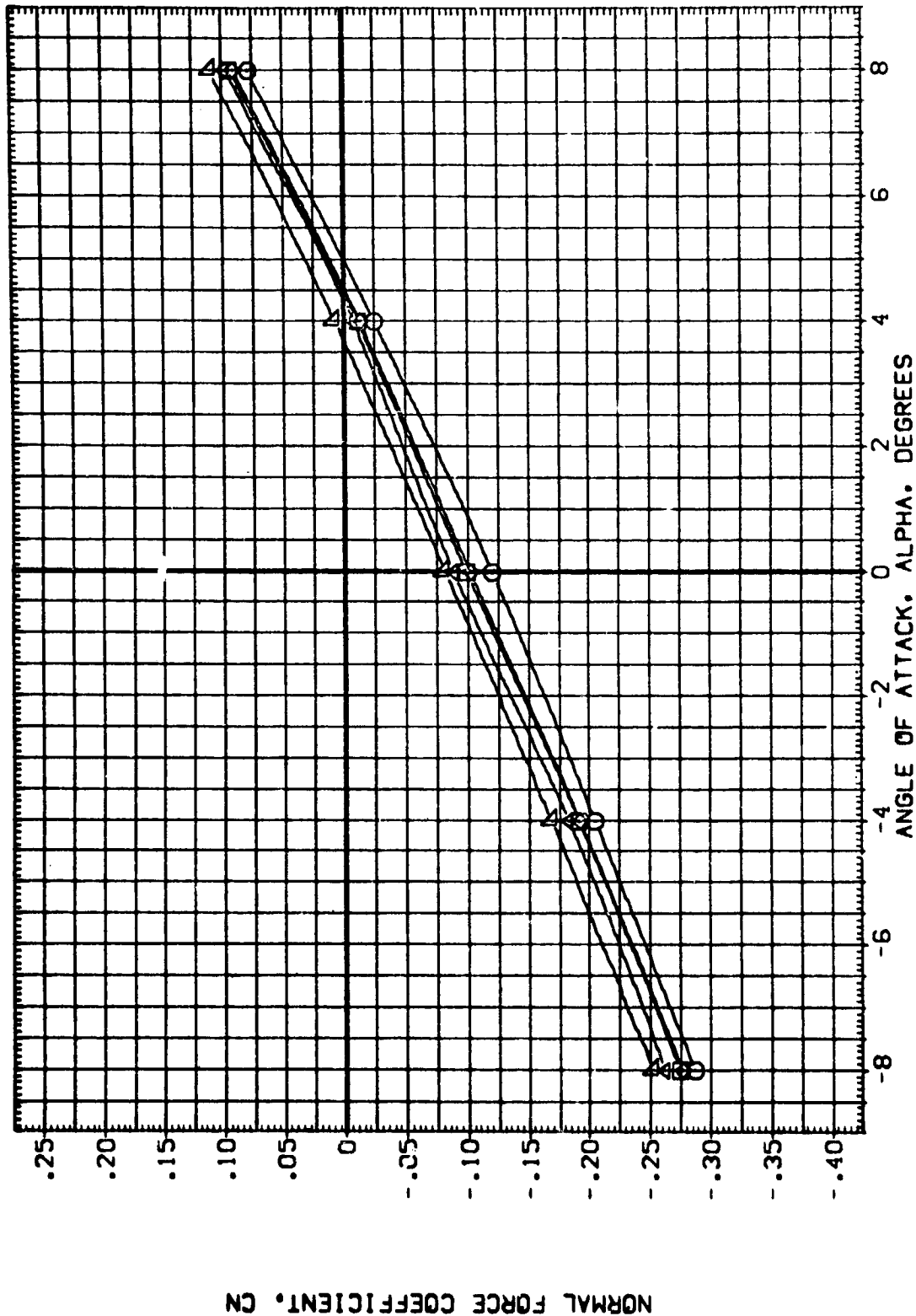


FIG. 8 LVAP (01 T12 S12 N25 AT11), MACH = .6 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (IB1134)

SYMBOL
 V
 D
 O
 S
 A
 T

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .557
 .000
 .000
 .000
 .000

ELEVON
 SPDBRK

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

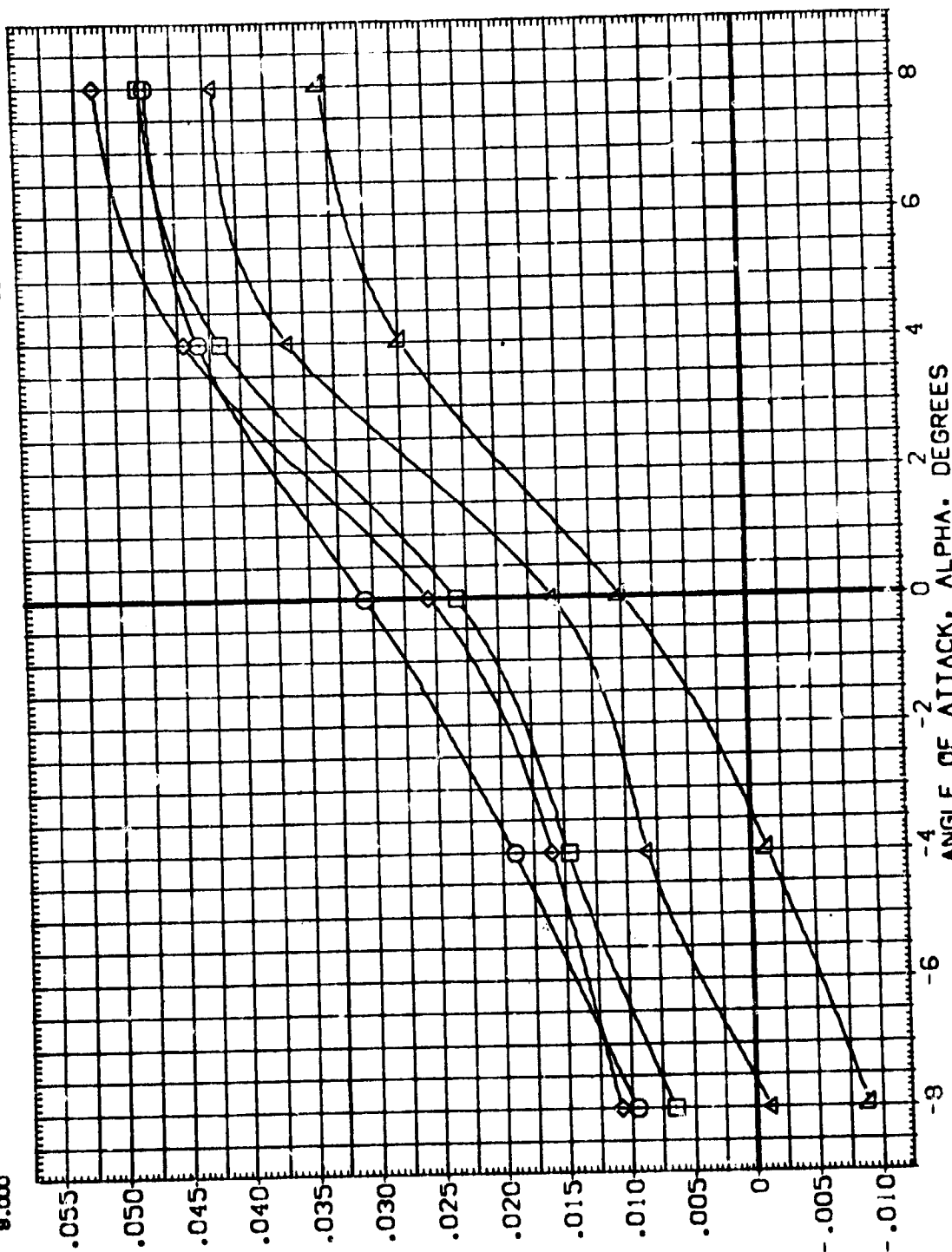


FIG. 8 LVAP (01 T12 S12 N25 AT11) , MACH = .6 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (IB1134)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 .597
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 SPOBRK

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XPRP .0000
 YPRP .0000
 ZPRP 9.5930
 SCALE .0300

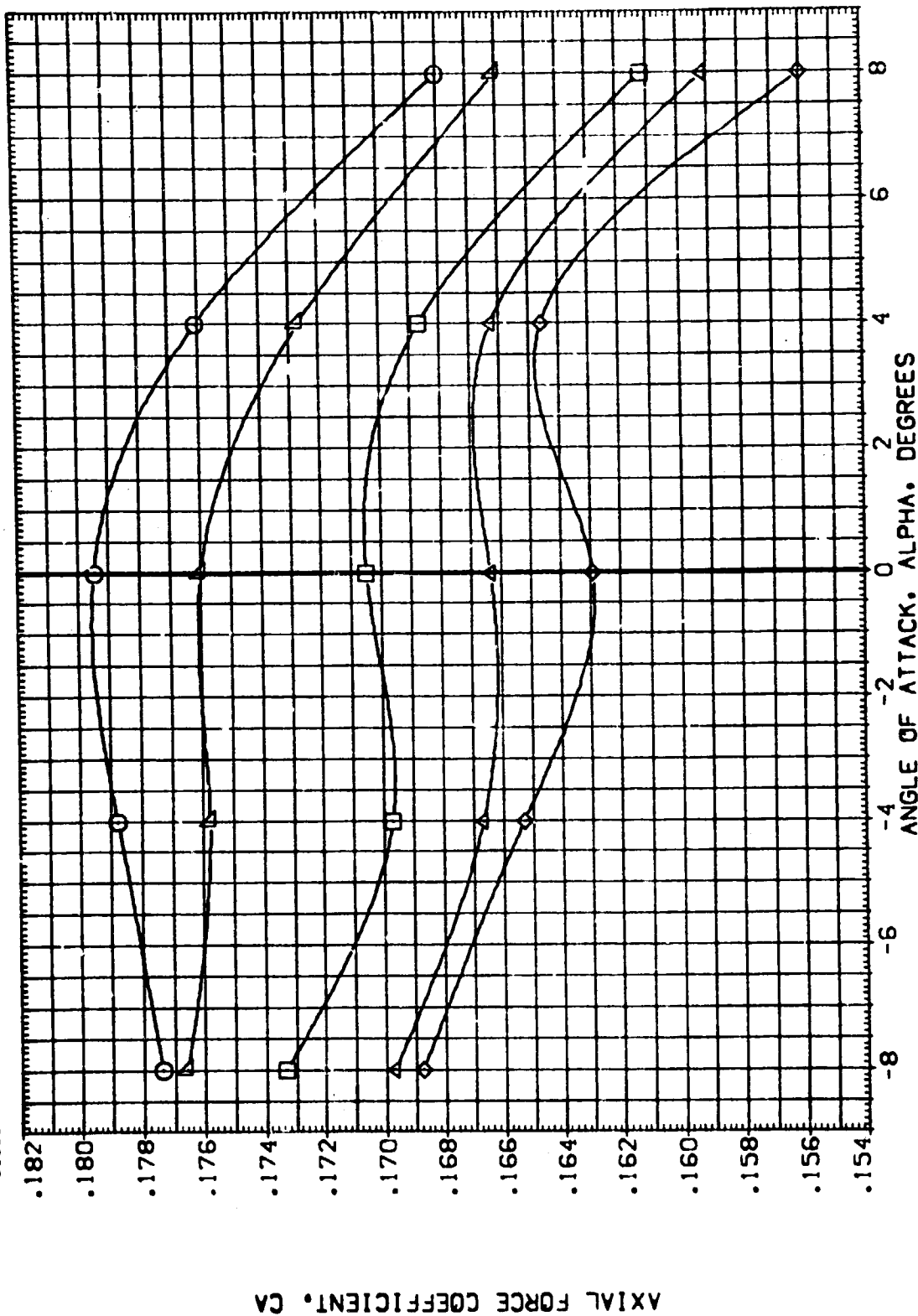


FIG. 8 LVAP (01 T12 S12 N25 AT11) . MACH = .6 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1134)

SYMBOL
 -8.000
 -4.000
 .000
 4.000
 8.000

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES

MACH
 .597
 .000
 .000

ELEVON
 .000
 .000
 .000

RUDDER
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 XREF 38.7090
 YREF .0000
 ZREF .0000
 XMRP .0000
 YMRP .0000
 ZMRP .0000
 SCALE .0300

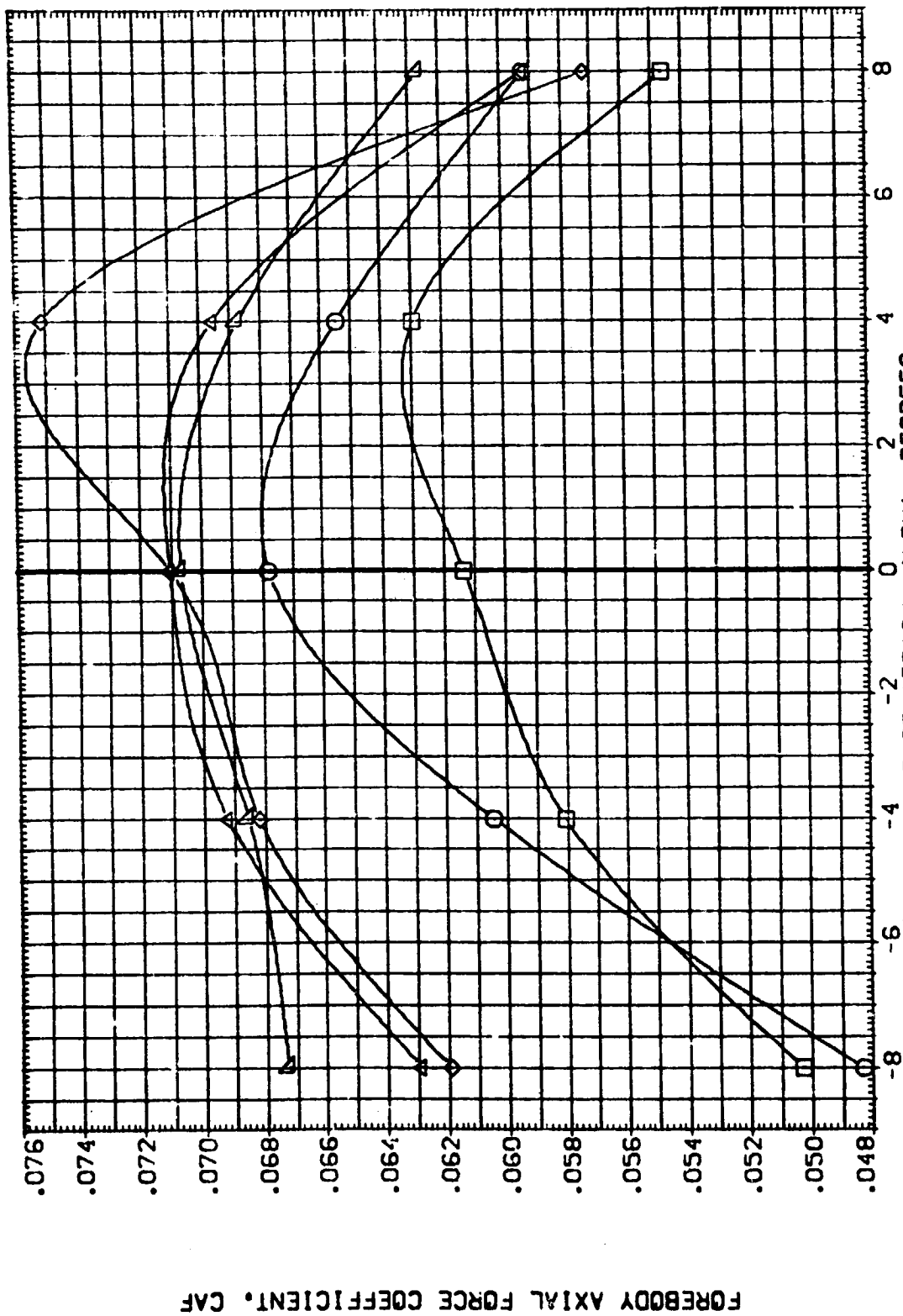


FIG. 8 LVAP (01 T12 S12 N25 AT11) , MACH = .6 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1134)

SYMBOL
 ○ □ ◇ △ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 .597
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 SPDRBK

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9500
 SCALE .0300

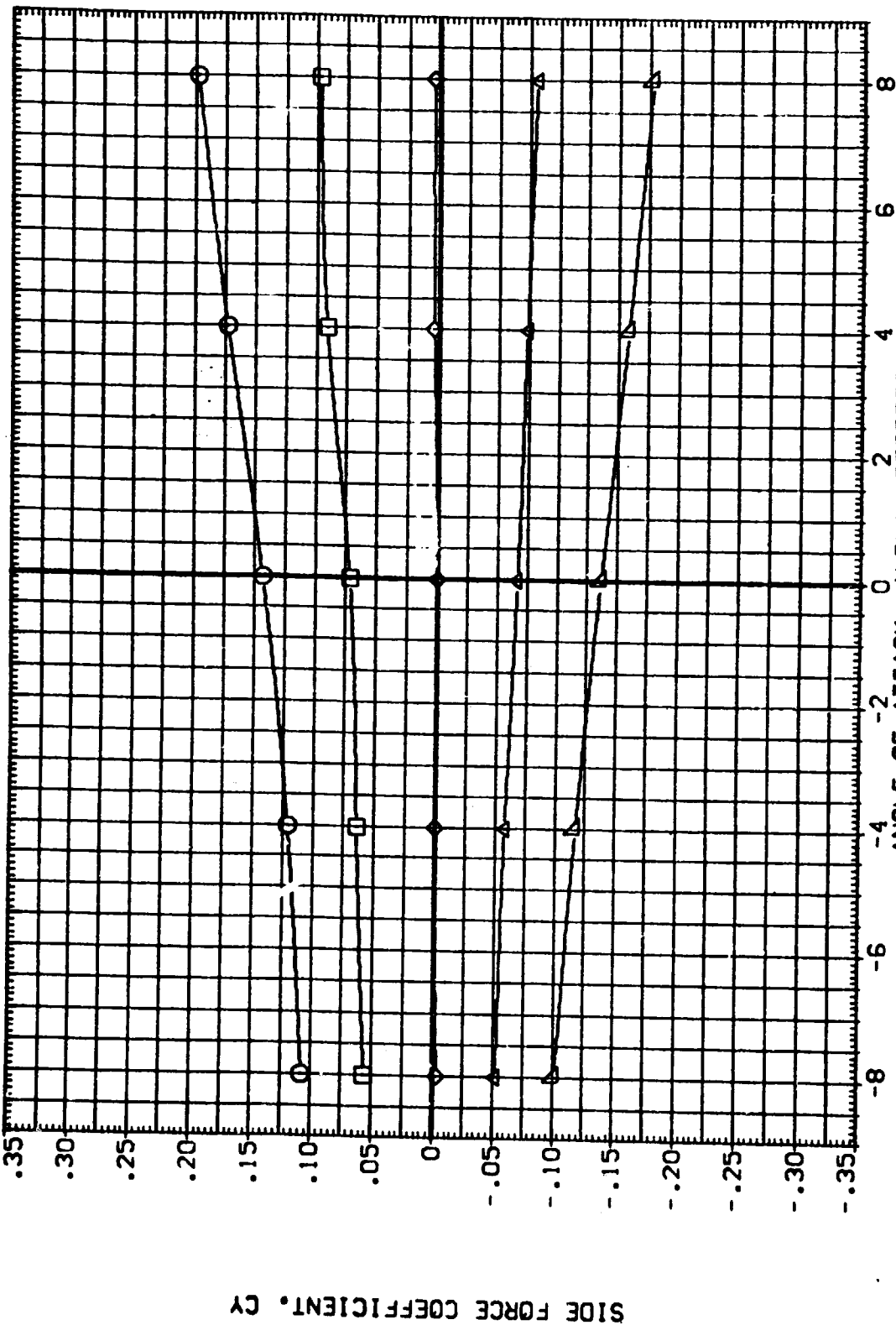


FIG. 8 LVAP (01 T12 S12 N25 AT11) , MACH = .6 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (IB1134)

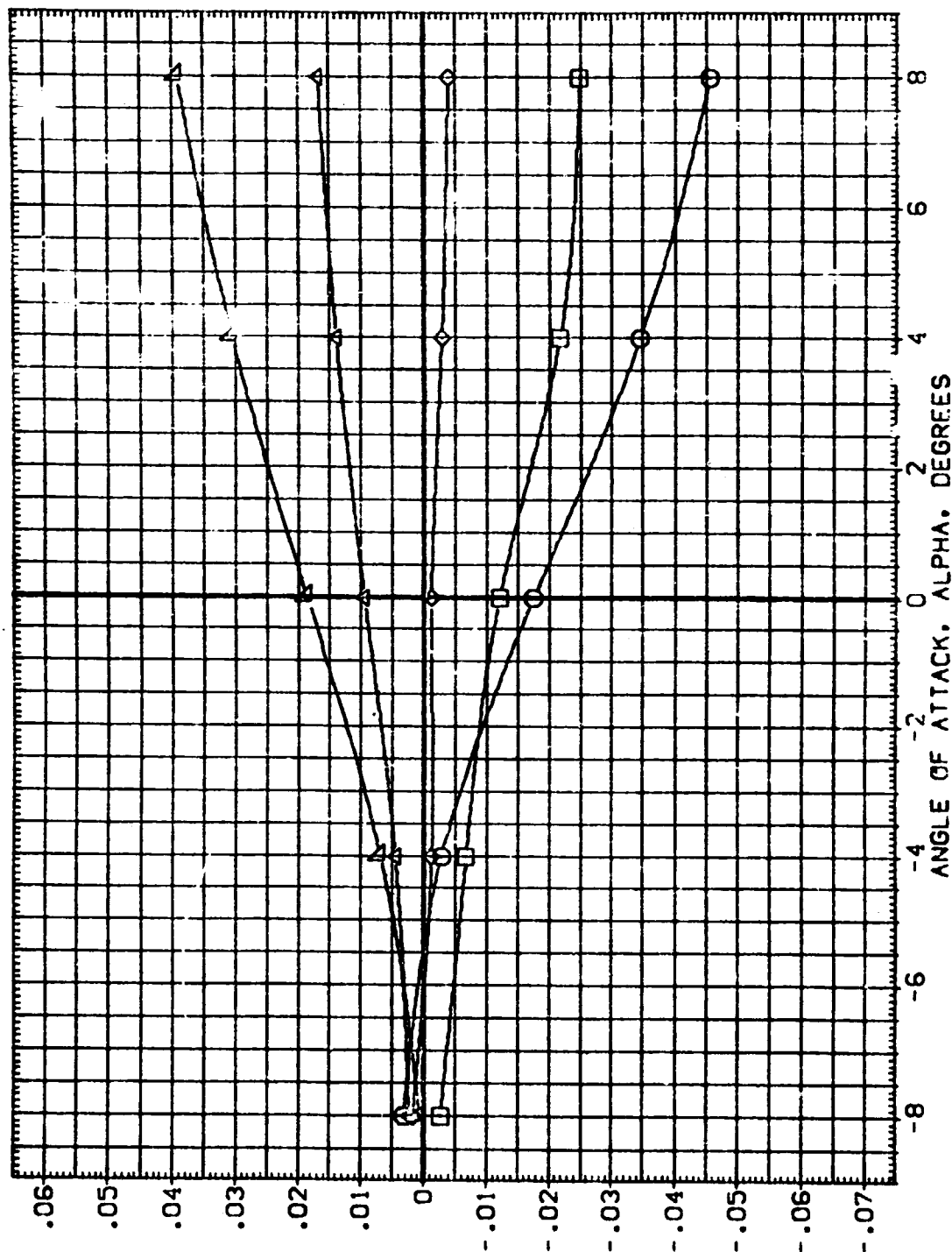
SYMBOL
□ □ ◇ △

BETA
-8.000
-4.000
0.000
4.000
8.000

MACH
RUDDER

PARAMETRIC VALUES
.592 ELEVON
.000 SPOBRK
.000

REFERENCE INFORMATION
SREF 2.4210 SQ.FT.
LREF 38.7050 IN.
BREF 38.7050 IN.
XREF 0.0000 IN.
YREF 0.0000 IN.
ZREF 9.9900 IN.
SCALE .0300



YAWING MOMENT COEFFICIENT, C_{YN} (BODY AXIS)

FIG. 8 LVAP (01 T12 S12 N25 AT11), MACH = .6 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1134)

SYMBOL
 ▽ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .597
 .000
 .000
 .000
 .000
 .000

ELEVON
 SPDRK

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7050
 BREF 38.7050
 XMRP .0000
 YMRP .0000
 ZMRP 9.5500
 SCALE .0300

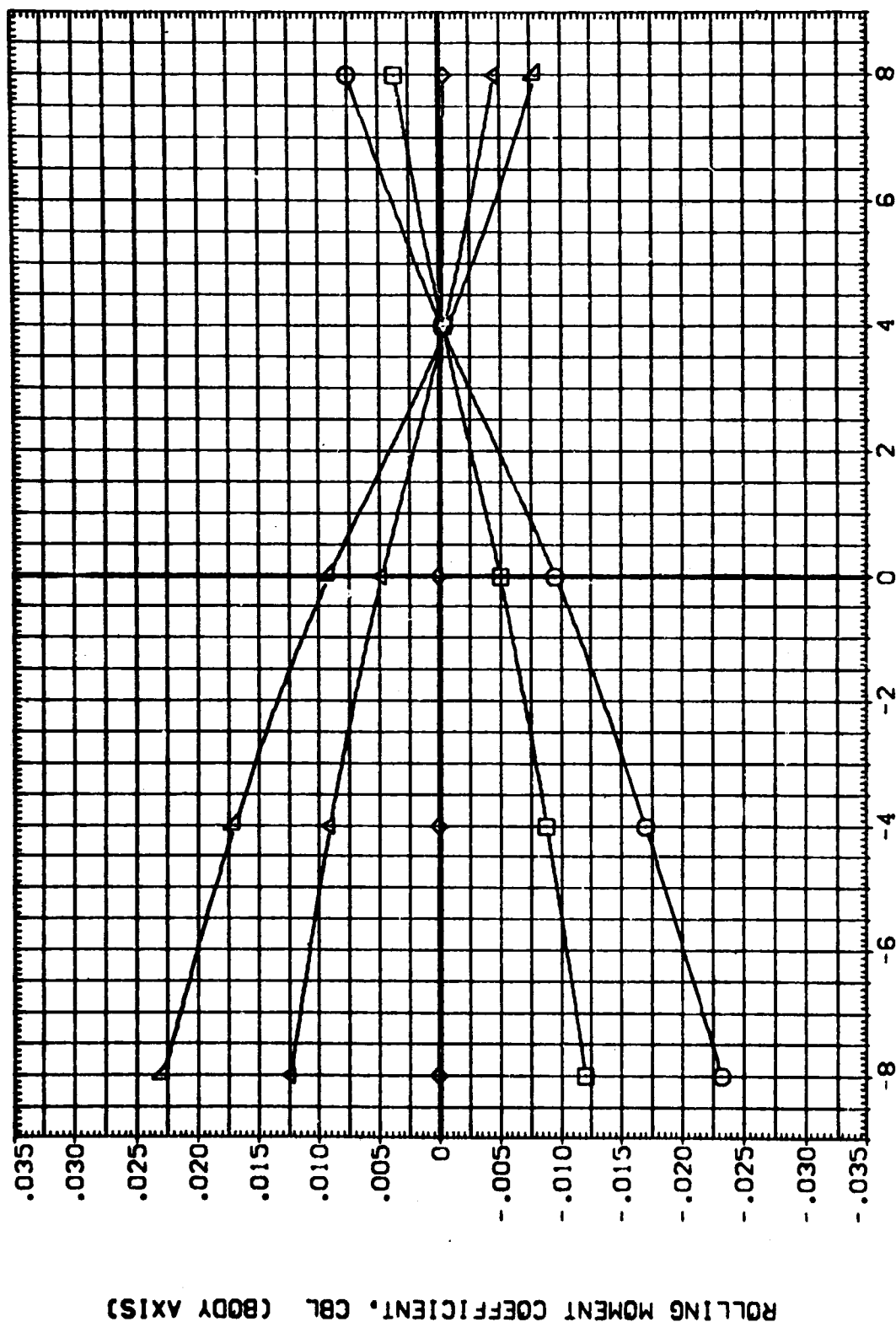


FIG. 8 LVAP (01 T12 S12 N25 AT11) . MACH = .6 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01 T12 S12 N25 AT11 (TANK+SRM) (181135)

SYMBOL	BETA	MACH	RUDER	PARAMETRIC VALUES	REFERENCE INFORMATION
▽	-8.000				SREF 2.4210
◇	-4.000				LREF 38.7090
□	.000				BREF 38.7090
▽	4.000				YREF .0000
◇	8.000				ZREF .0000
					SCALE 9.9900
					SCALE .0300

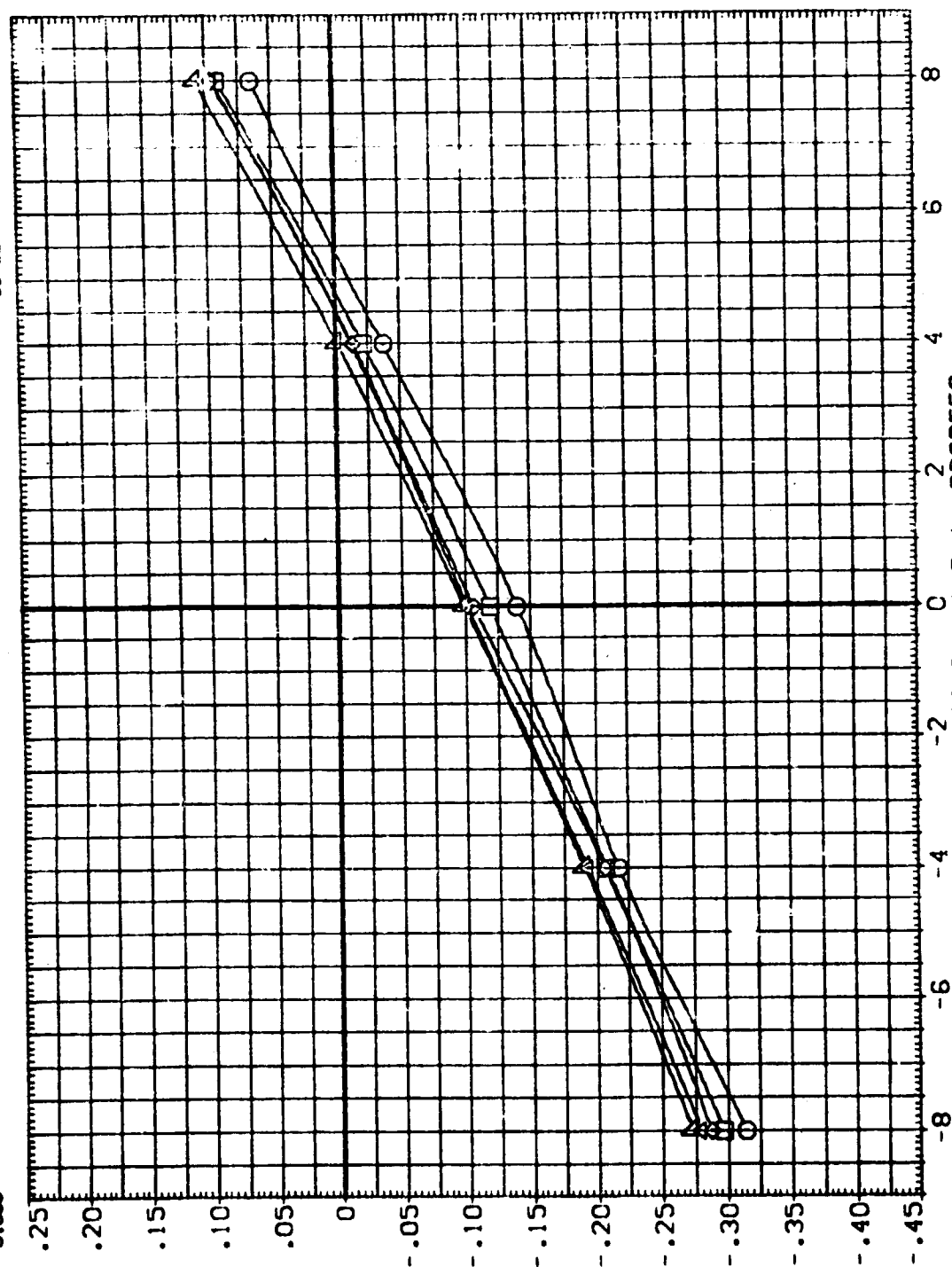


FIG. 9 LVAP (01 T12 S12 N25 AT11) , MACH = .75 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (IB1135)

SYMBOL
 ○ □ ◇ △ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 .749
 .000
 .000
 .000
 .000

ELEVON
 .000
 .000
 .000
 .000
 .000

SPDRK
 .000
 .000
 .000
 .000
 .000

PITCHING MOMENT COEFFICIENT, CLM

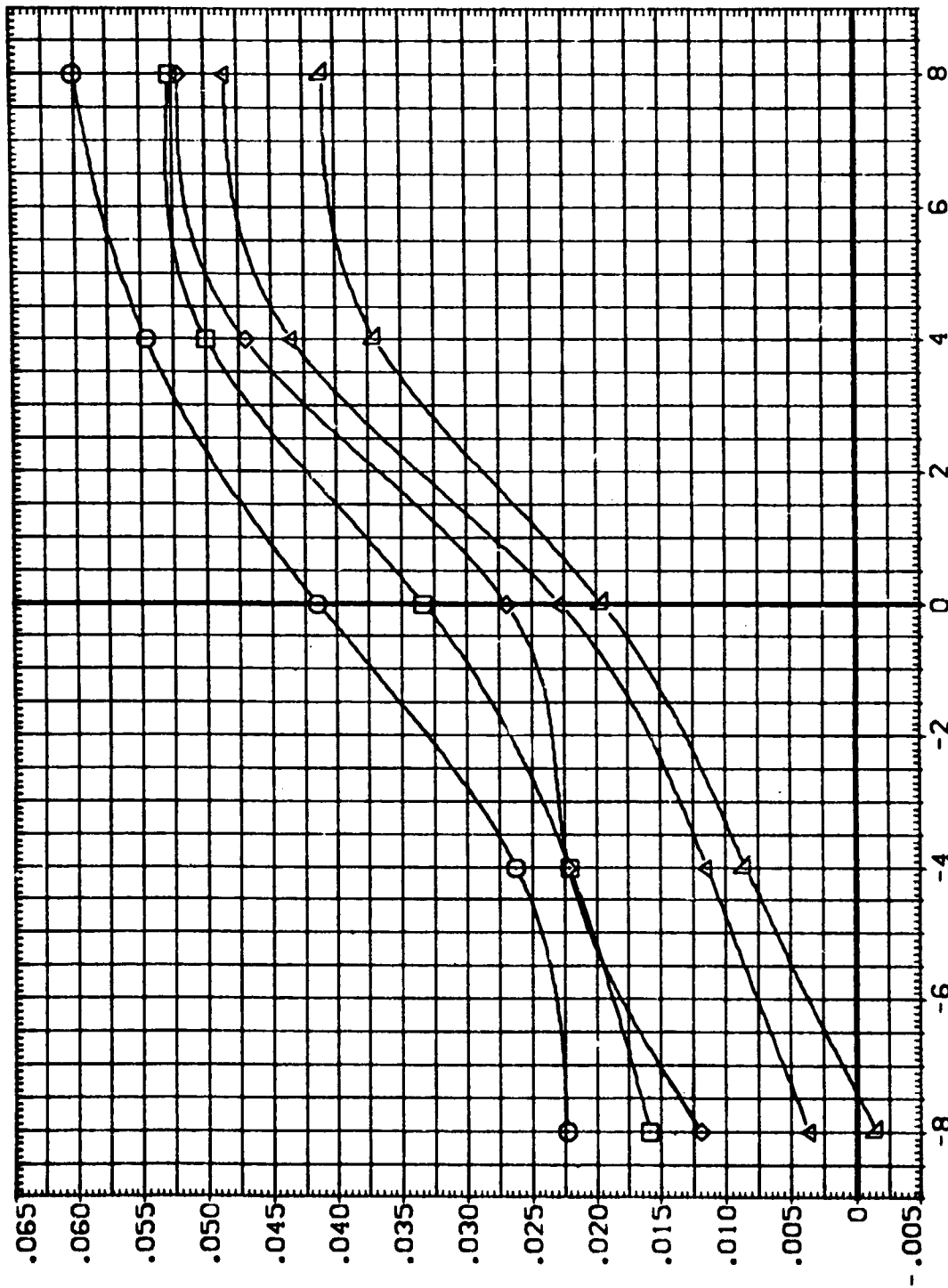


FIG. 9 LVAP (01 T12 S12 N25 AT11) , MACH = .75 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1135)

SYMBOL
 -8.000
 -4.000
 .000
 4.000
 8.000

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .749
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7080
 BREF 38.7050
 YMRP .0000
 ZMRP .0000
 SCALE 9.9933
 SQ.FT. N.
 N.
 N.
 N.
 N.

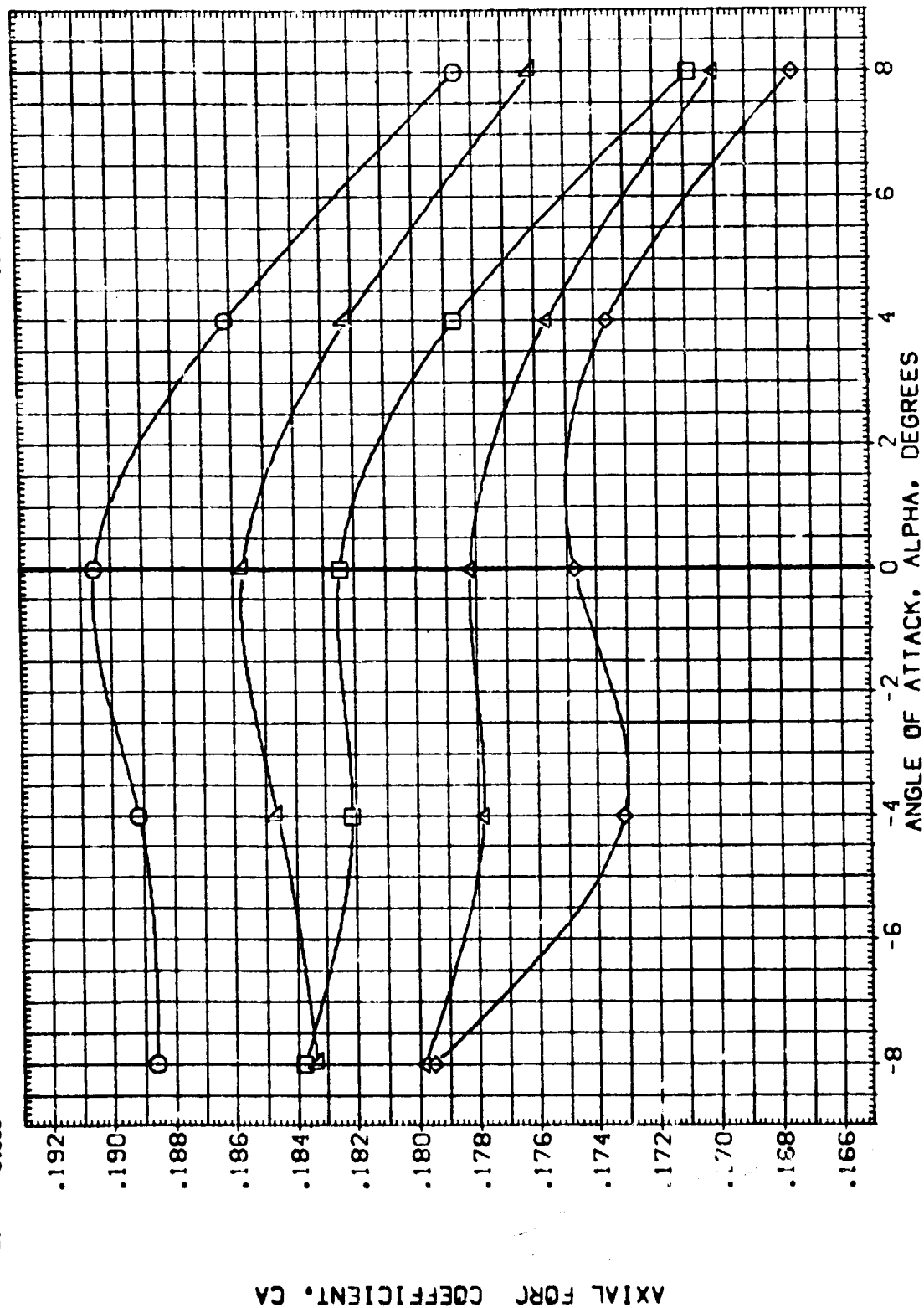


FIG. 9 LVAP (01 T12 S12 N25 AT11) , MACH = .75 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (IB1135)

SYMBOL
 ▽
 ◇
 □
 ○
 △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .749 ELEVON
 .000 SPOBRK
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9500 IN.
 SCALE .0300

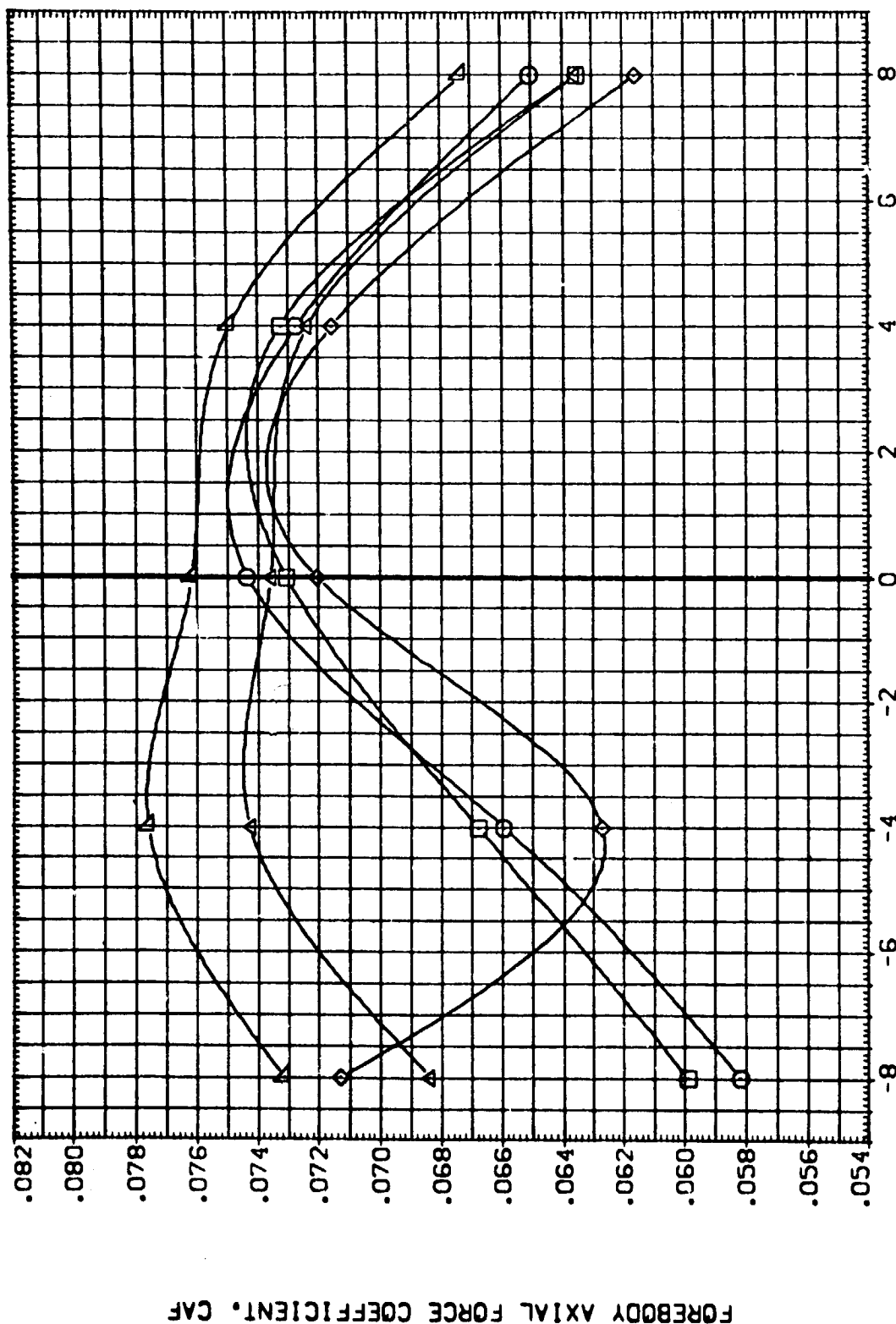


FIG. 9 LVAP (01 T12 S12 N25 AT11) . MACH = .75 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (IB1135)

SYMBOL

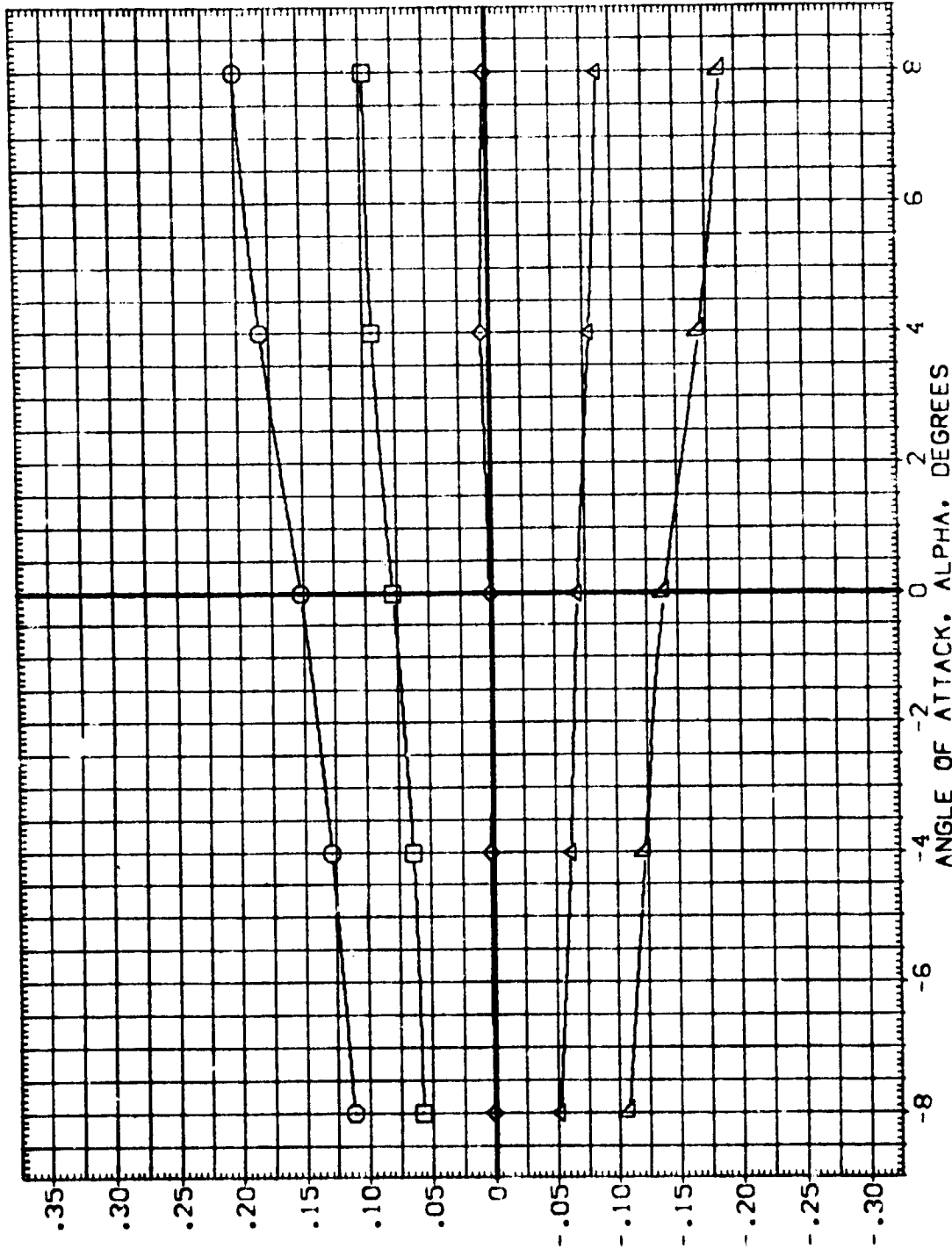
BETA
-8.000
-4.000
.000
4.000
8.000

MACH
RUDDER

PARAMETRIC VALUES
.749 ELEVON
.000 SPOBRK

.000
.000

REFERENCE INFORMATION
SREF 2.4210 SO.FT.
LREF 38.7050 IN.
BREF 38.7050 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9800 IN.
SCALE .0300



SIDE FORCE COEFFICIENT, CY

FIG. 9 LVAP (01 T12 S12 N25 AT11) , MACH = .75 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1135)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .749
 RUDDER .000
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

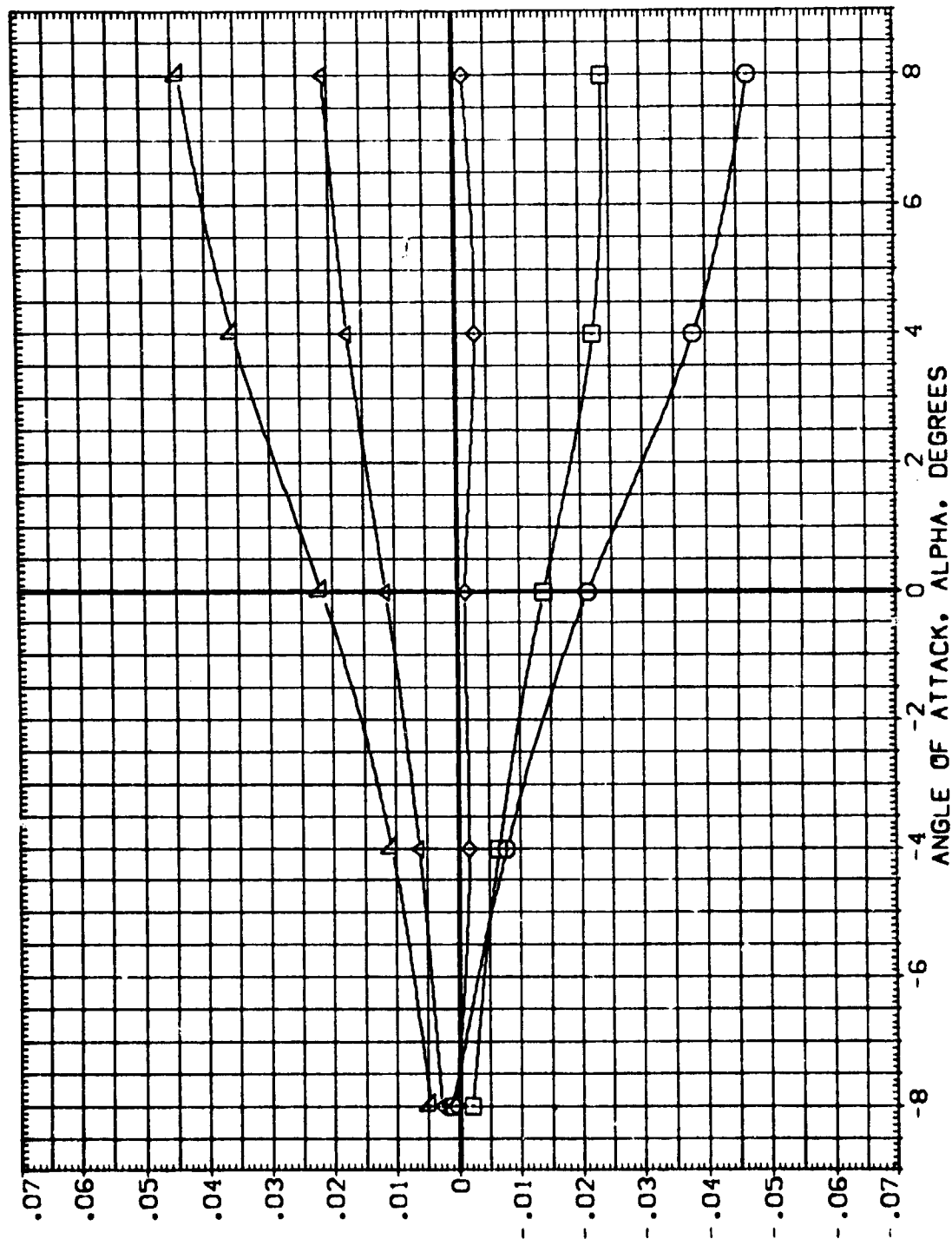


FIG. 9 LVAP (01 T12 S12 N25 AT11) , MACH = .75 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (IB1135)

SYMBOL
 7
 4
 3
 2
 1
 0

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 .749
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 .000
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF
 LREF
 BREF
 XMRP
 YMRP
 ZMRP
 SCALE

2.4210
 38.7090
 38.7090
 .0000
 .0000
 9.9900
 .0300

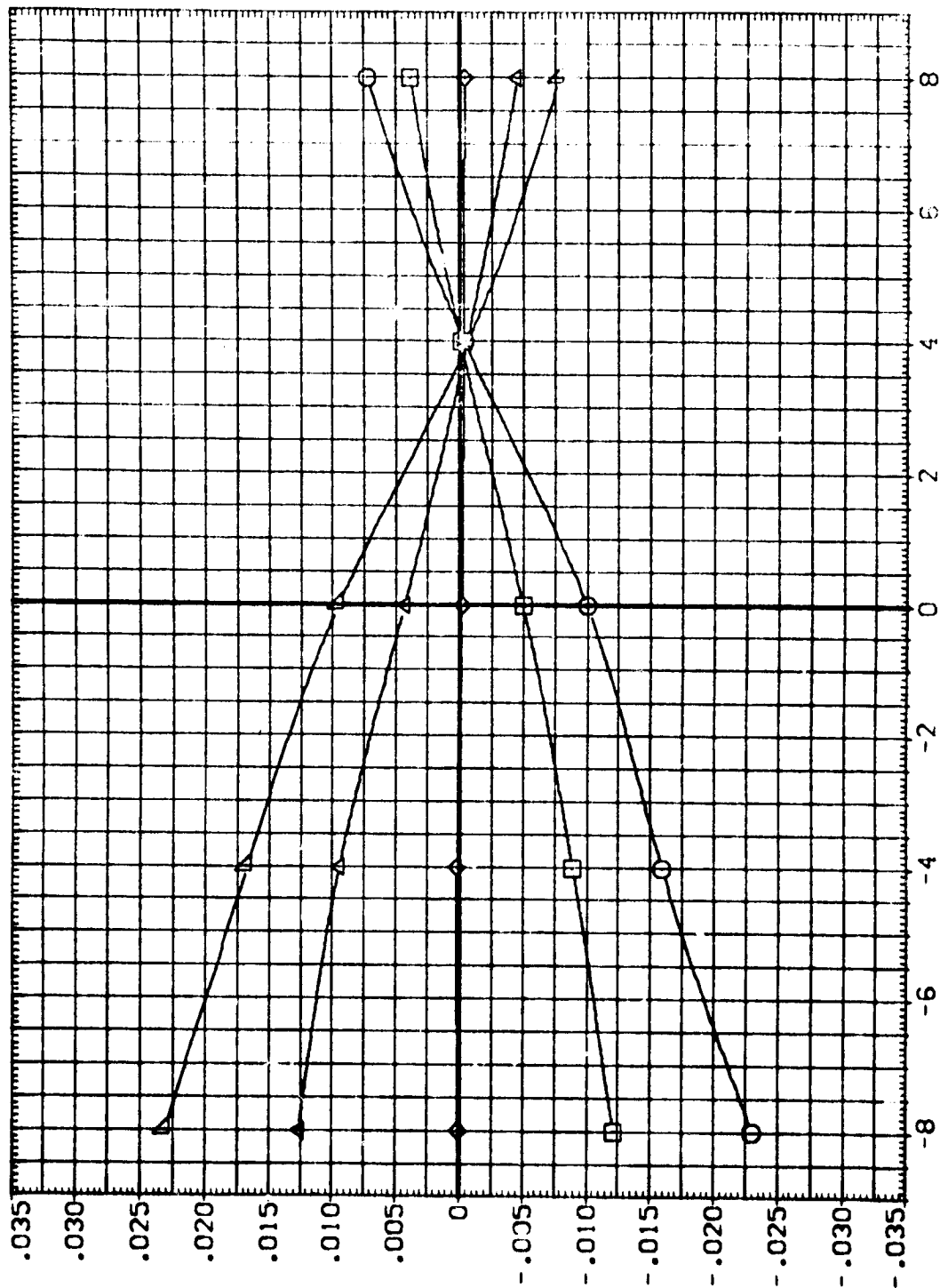


FIG. 9 LVAP (01 T12 S12 N25 AT11) , MACH = .75 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1136)

SYMBOL
▽
◇
□
○

BETA
-8.000
-4.000
.000
4.000
8.000

MACH
RUDDER

PARAMETRIC VALUES
.849 ELEVON
.000 SPOBRK

.000
.000

REFERENCE INFORMATION
SREF 2.4210 SQ.FT.
LREF 38.7050 IN.
BREF 38.7050 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9500 IN.
SCALE .0300

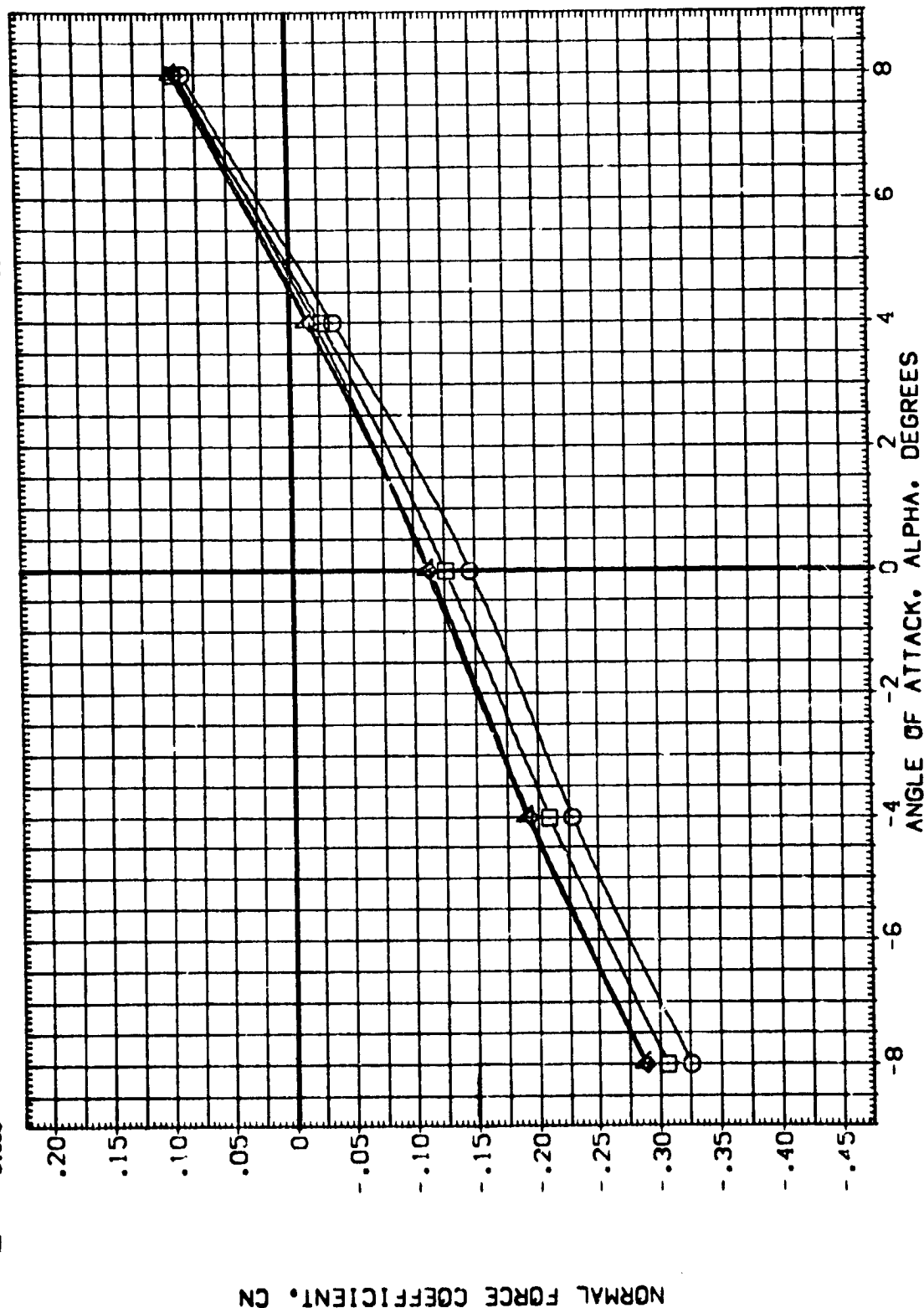


FIG. 10 LVAP (01 T12 S12 N25 AT11) • MACH = .85 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1136)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .049 ELEVON
 .000 SPOBRK

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7050
 BREF 38.7050
 XMRP .0000
 YMRP .0000
 ZMRP 9.9500
 SCALE .0300

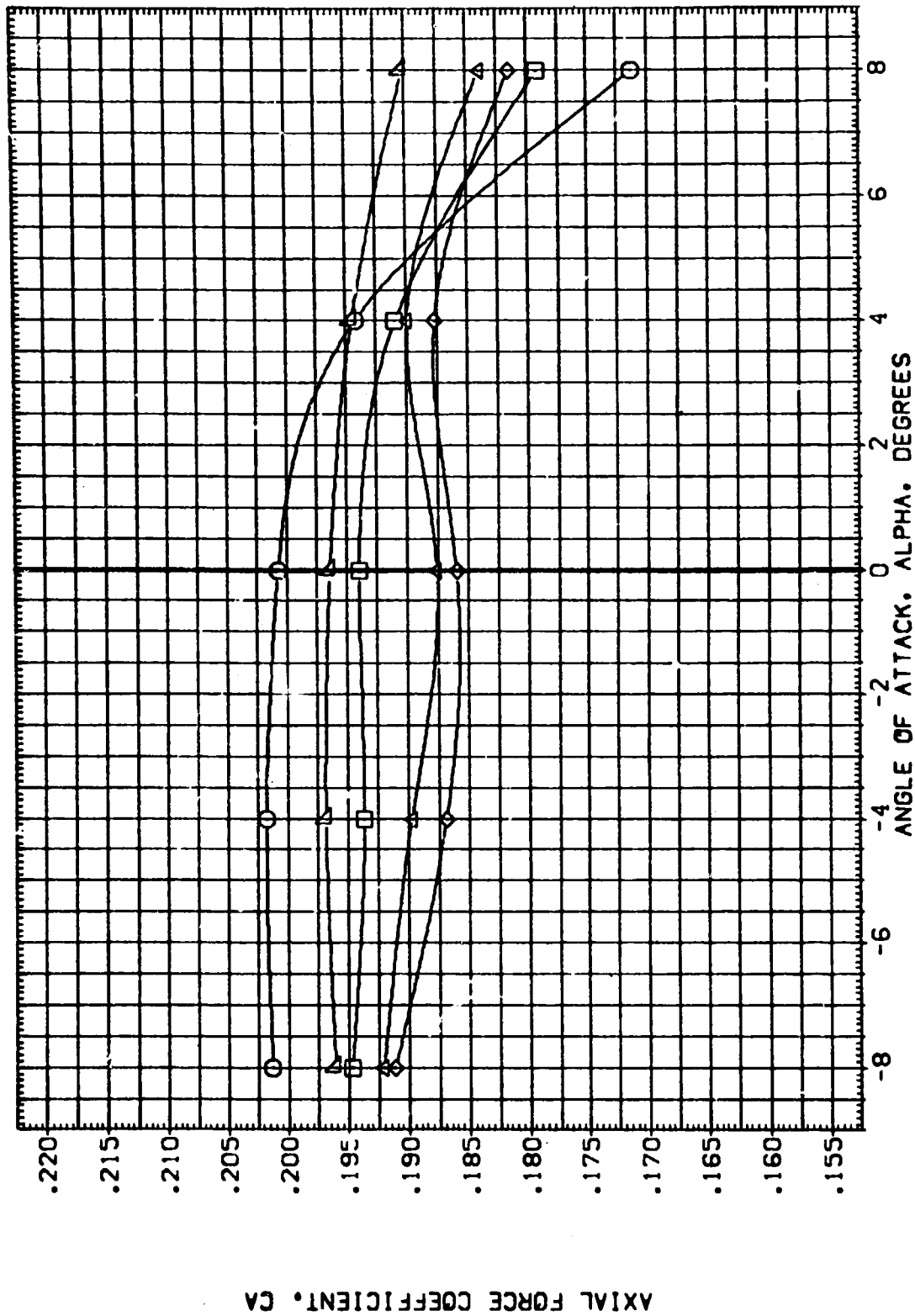


FIG. 10 LVAP (01 T12 S12 N25 AT11) . MACH = .85 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1136)

SYMBOL
▽
◇
□
○
△

BETA
-8.000
-4.000
.000
4.000
8.000

MACH
RUDDER

PARAMETRIC VALUES
.849
.000
.000
ELEVON
SPDRK
.000
.000

REFERENCE INFORMATION
SREF 2.4210
REF 38.7090
BREF 38.7090
VREF .0000
VMRP .0000
ZMRP 9.9900
SCALE .0300

SO.FT.
IN.
IN.
IN.
IN.

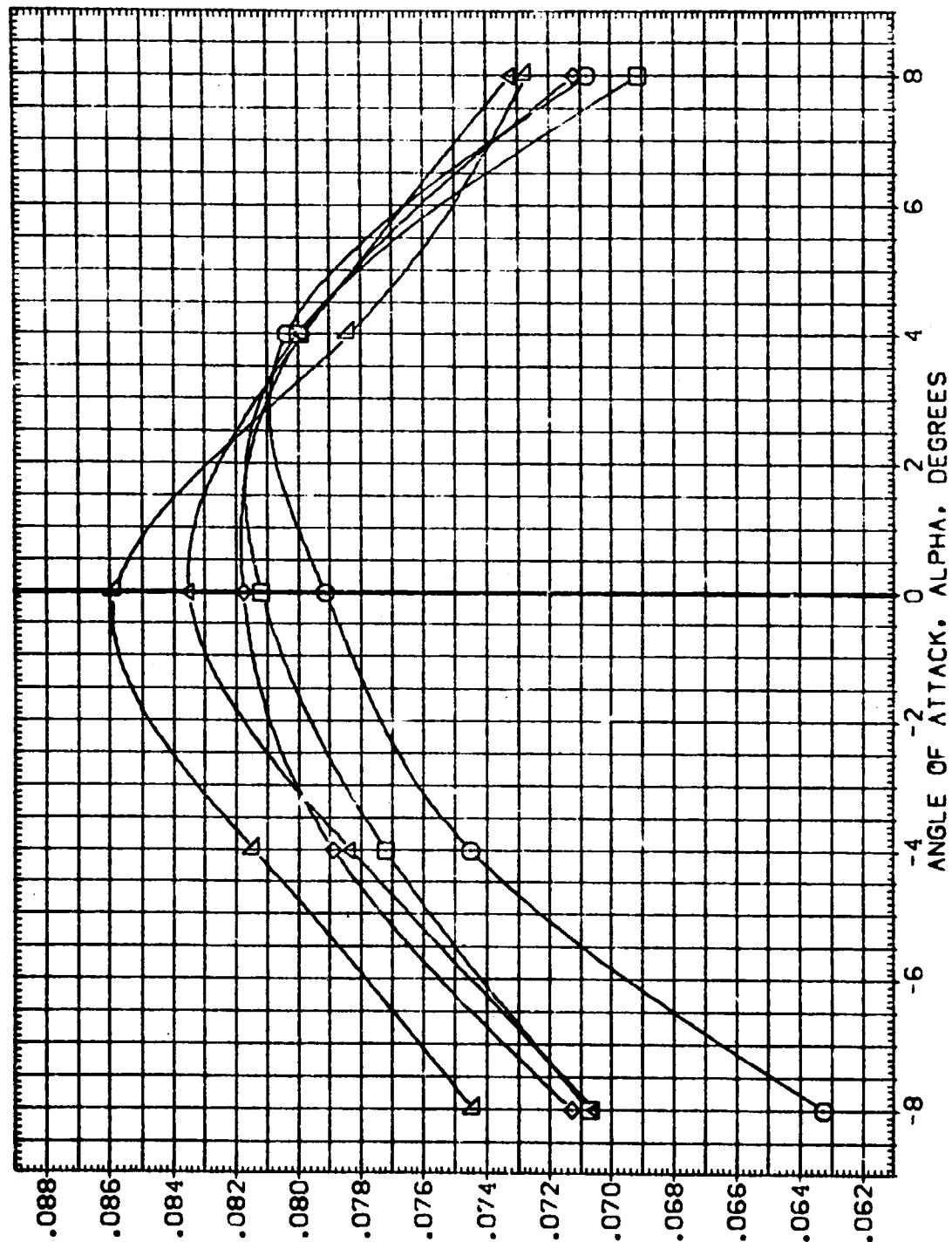


FIG. 10 LVAP (01 T12 S12 N25 AT11) • MACH = .85 (TANK + SRM BALANCE)

AMES 11-716 [A14A 01+T12+S12N25+AT11 (TANK+SRM) (IB1136)]

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XPRP .0000 IN.
 YPRP .0000 IN.
 ZPRP 9.9500 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000 MACH .049 ELEVON .000
 -4.000 RUDDER .000 SPOBRK .000
 .000
 4.000
 8.000

SYMBOL
 ▽ ◊ □ ○ ▴

SIDE FORCE COEFFICIENT, CY

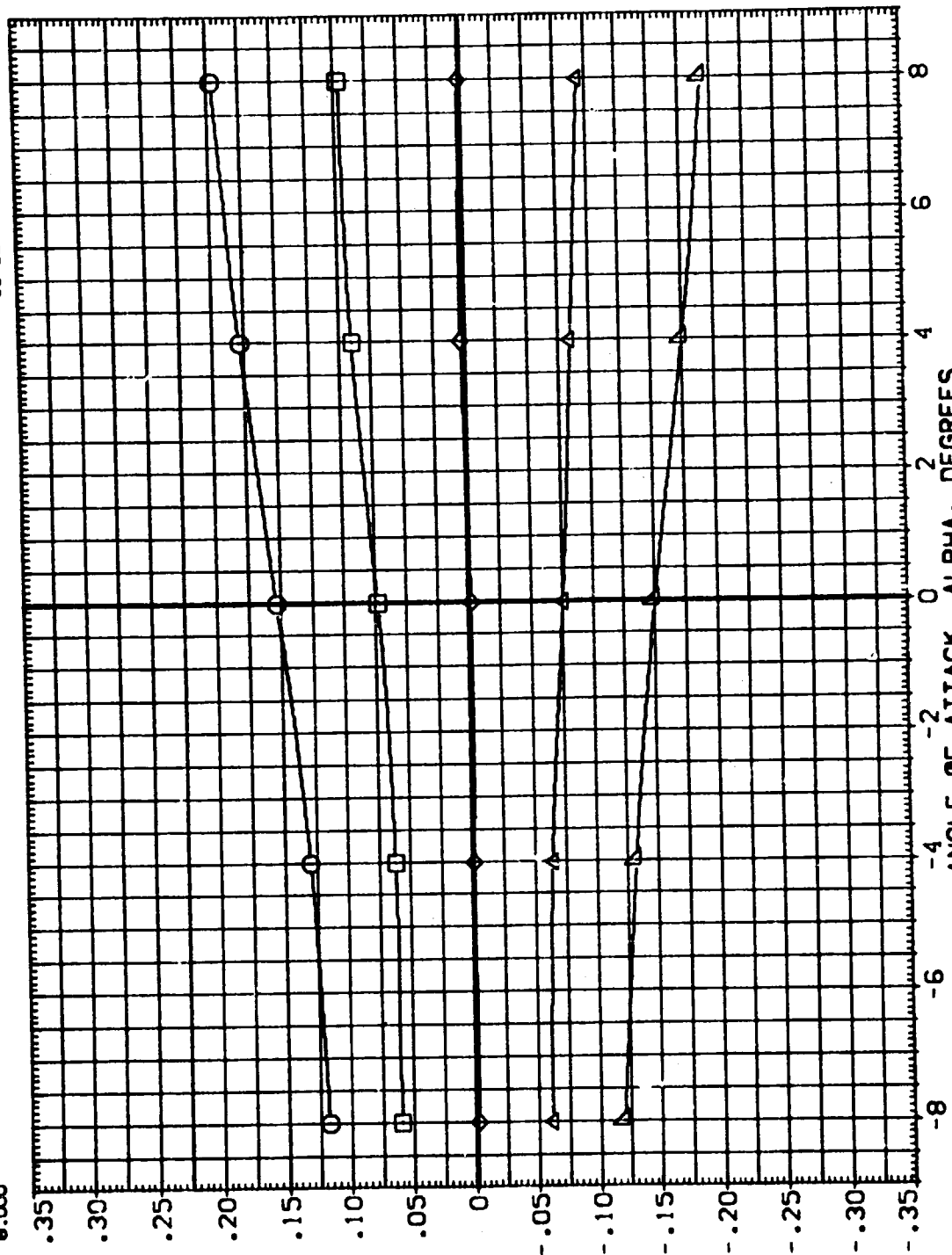


FIG. 10 LVAP (01 T12 S12 N25 AT11) , MACH = .85 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1136)

SYMBOL
 □ ◇ △ ▽

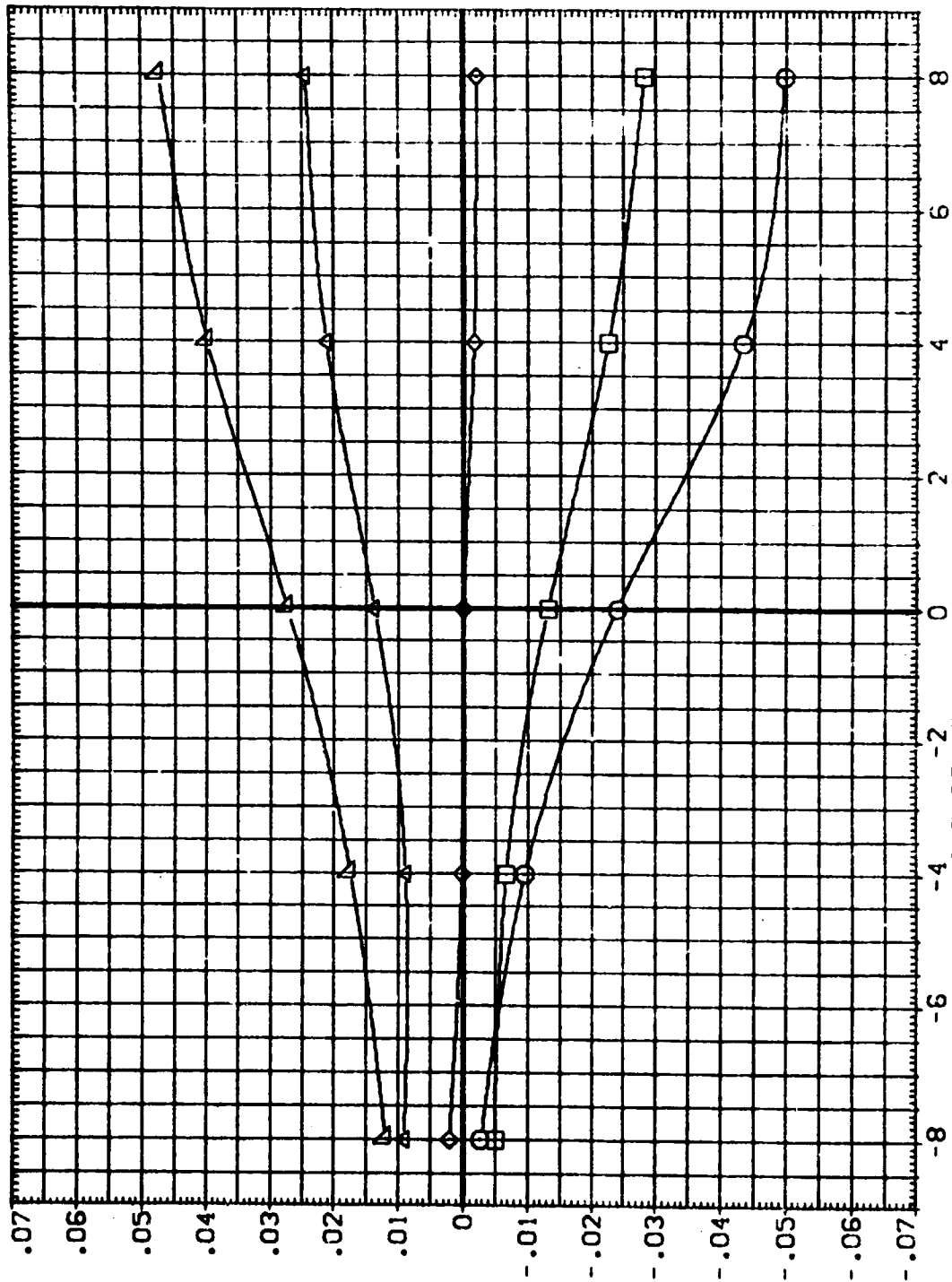
BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 .849
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 .000
 .000
 .000
 .000
 .000

SPDRK
 .000
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9500 IN.
 SCALE .0300



YAWING MOMENT COEFFICIENT, C_{YN} (BODY AXIS)

FIG. 10 LVAP (01 T12 S12 N25 AT11) • MACH = .85 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1136)

SYMBOL
 ▽ ◊ □ ◊ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .049 ELEVON
 .000 SPOBRK

.000
 .000

REFERENCE INFORMATION
 SPREF 2.4210 SO.FT.
 LRREF 38.7050 IN.
 BRREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9500 IN.
 SCALE .0300

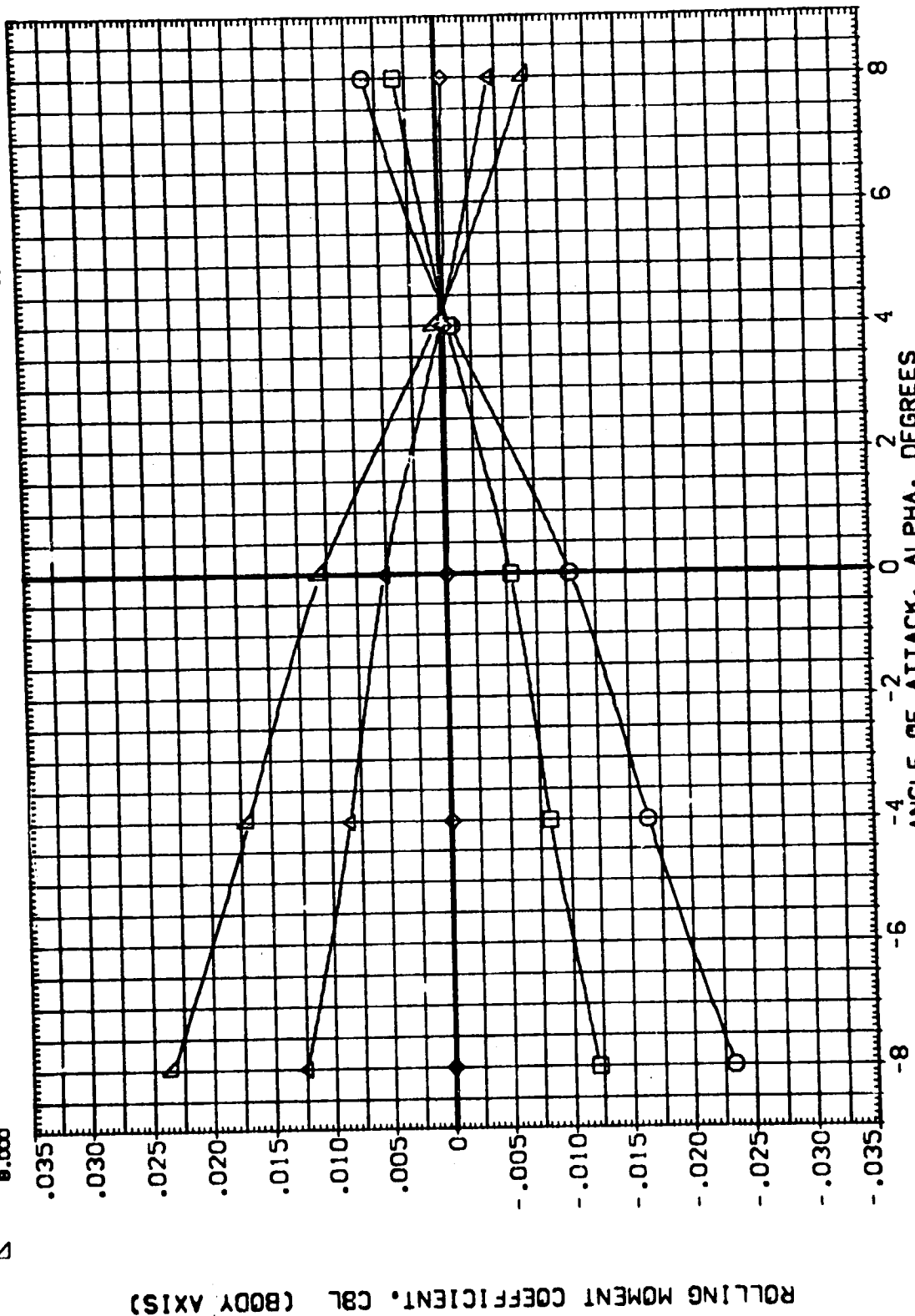


FIG. 10 LVAP (01 T12 S12 N25 AT11) , MACH = .85 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+112+S12N25+AT11 (TANK+SRM) (1B1137)

SYMBOL
 ○ □ ◇ △

BETA		MACH		PARAMETRIC VALUES	
-8.000	-4.000	FLUDER	RODOR	.555	ELEVON
.000	.000	.000	.000	.000	.000
4.000	8.000				

REFERENCE INFORMATION	
SREF	50.FT.
LREF	2.4210
BREF	38.7050
XMRP	38.7050
YMRP	.0000
ZMRP	.0000
SCALE	9.9900

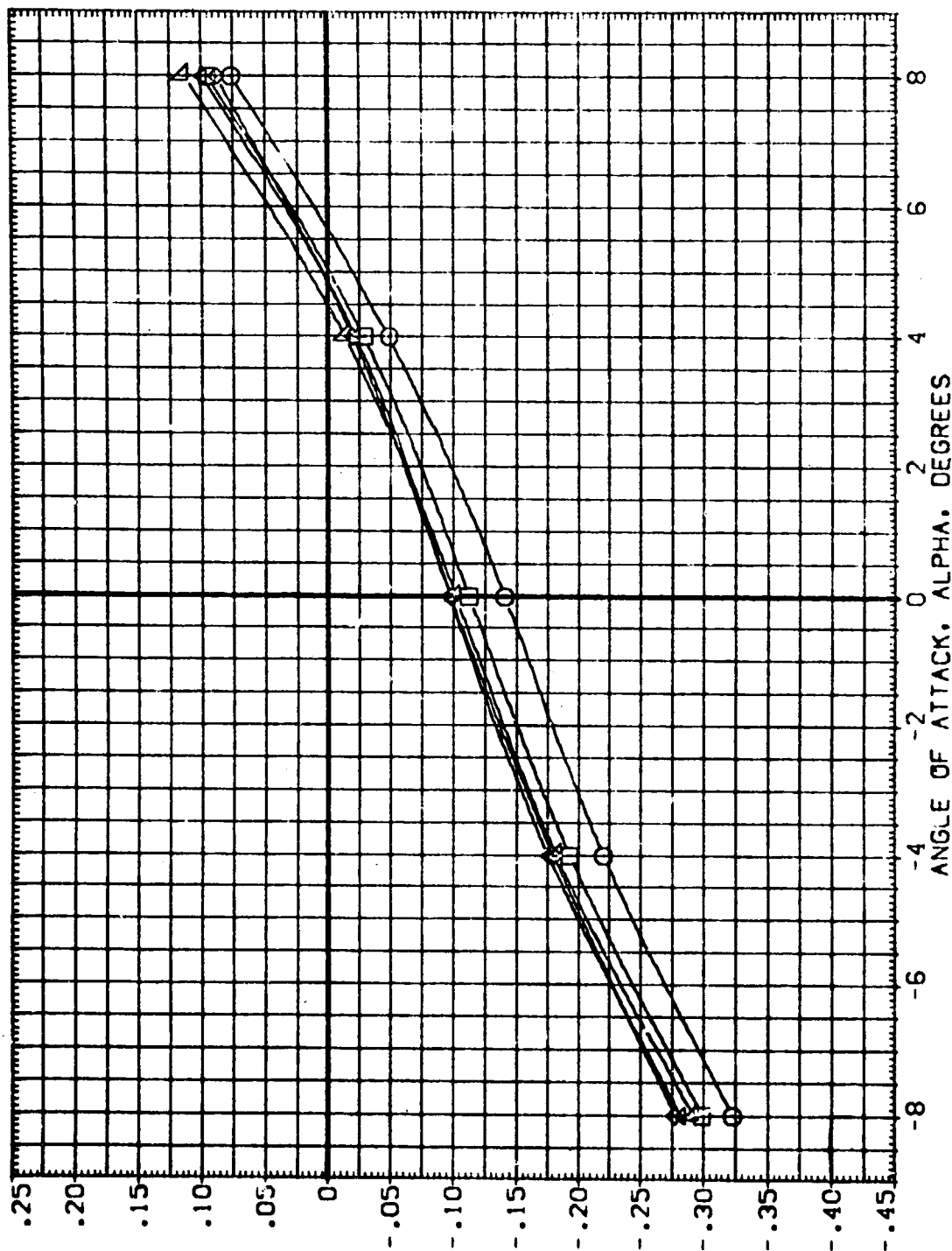


FIG. 11 LVAP (01 112 S12 N25 AT11) , MACH = .95 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1137)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .955 ELEVON
 .000 SPOBRK

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9500 IN.
 SCALE .0300

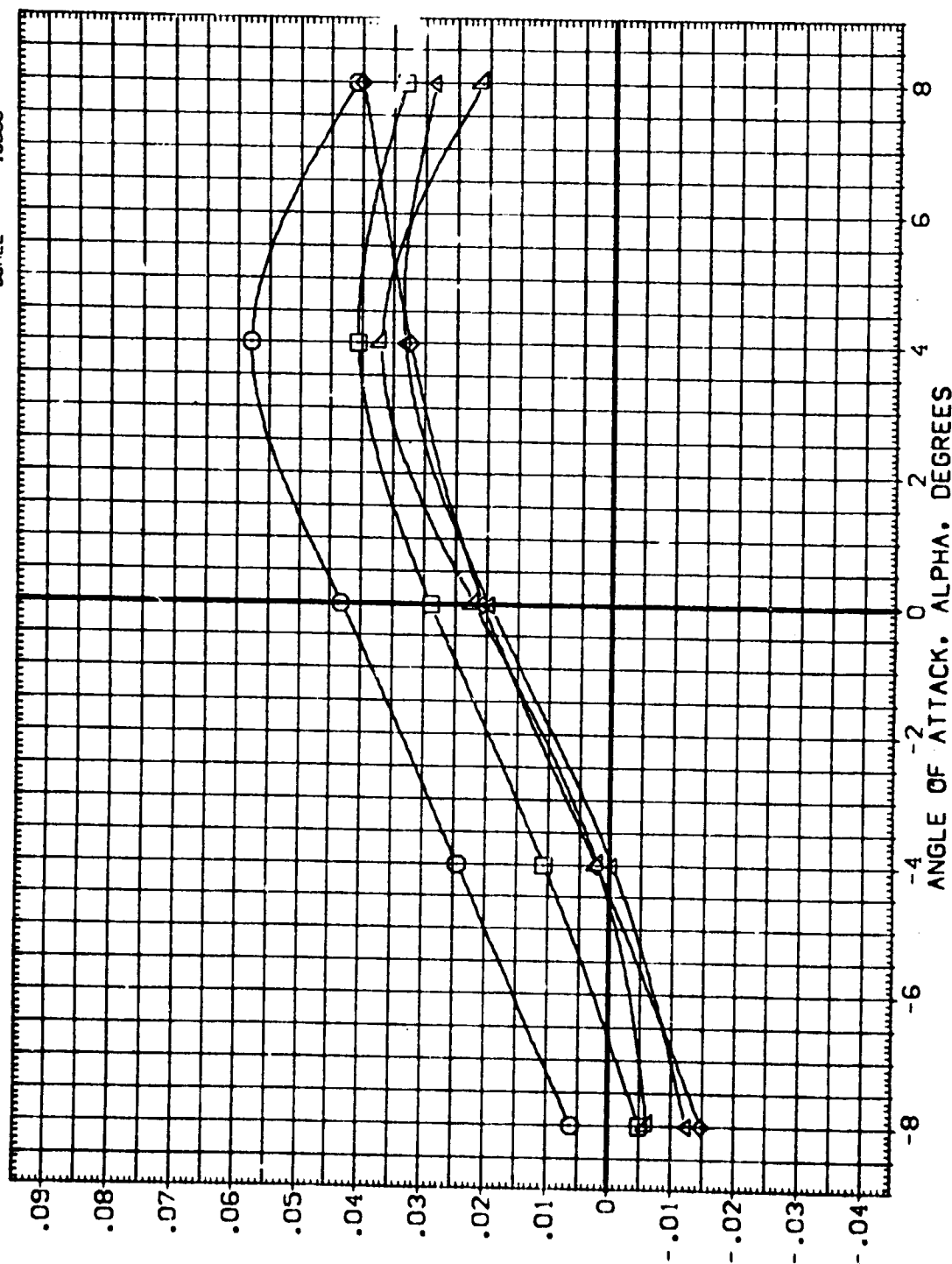


FIG. 11 LVAP (01 T12 S12 N25 AT11) , MACH = .95 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (IB1137)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .955 ELEVON
 .000 SPOON
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9800
 SCALE .0300

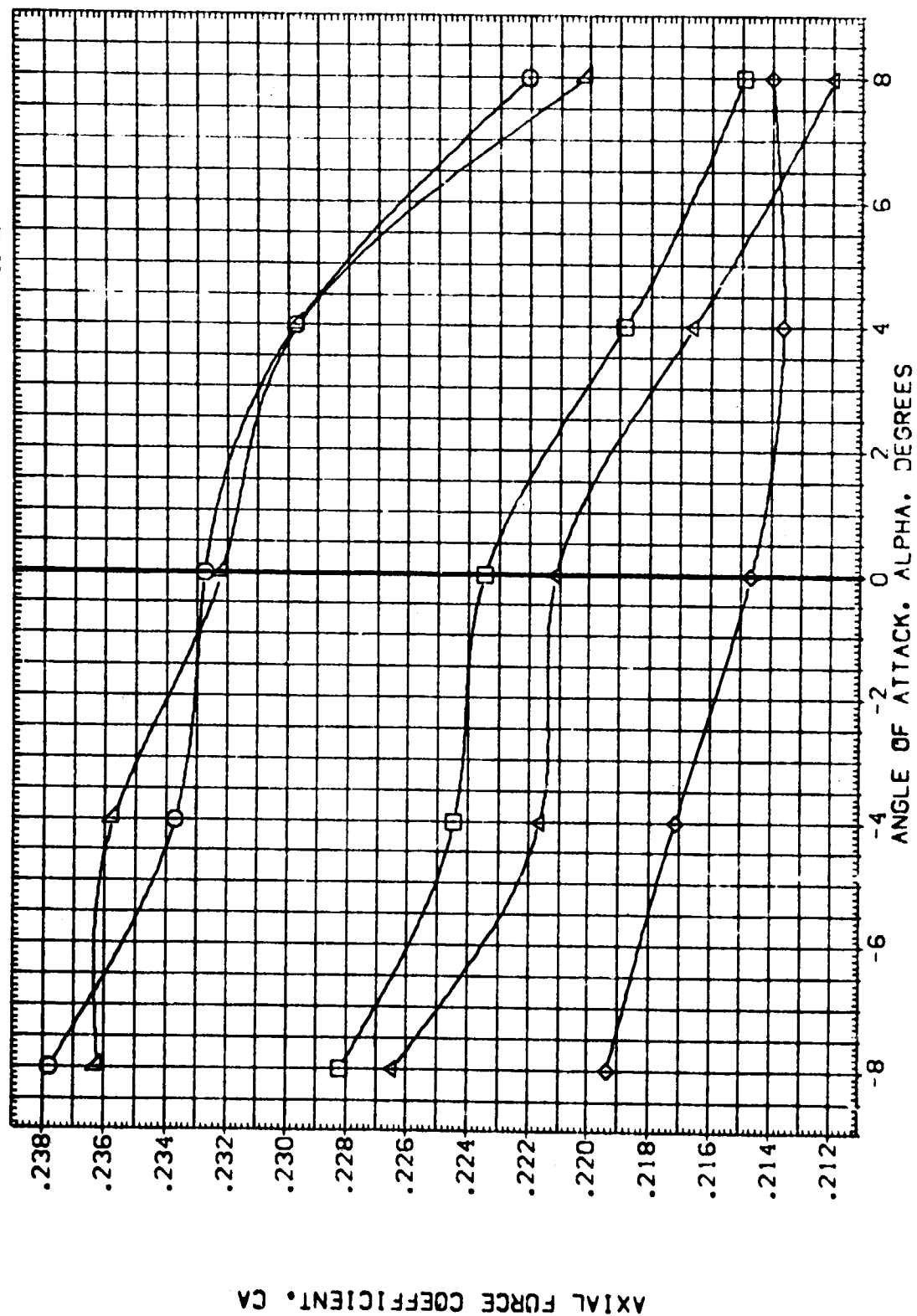


FIG. 11 LVAP (01 T12 S12 N25 AT11) , MACH = .95 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (IB1137)

SYMBOL	BETA	MACH	PARAMETRIC VALUES	REFERENCE INFORMATION
□	-8.000		.955	SREF 7.4210
◇	-4.000	FLUDER	.000	LREF 38.7090
◇	4.000		.000	BREF 38.7090
△	8.000		.000	XMRP .0000
			.000	YMRP .0000
			.000	ZMRP 9.9900
			.0300	SCALE

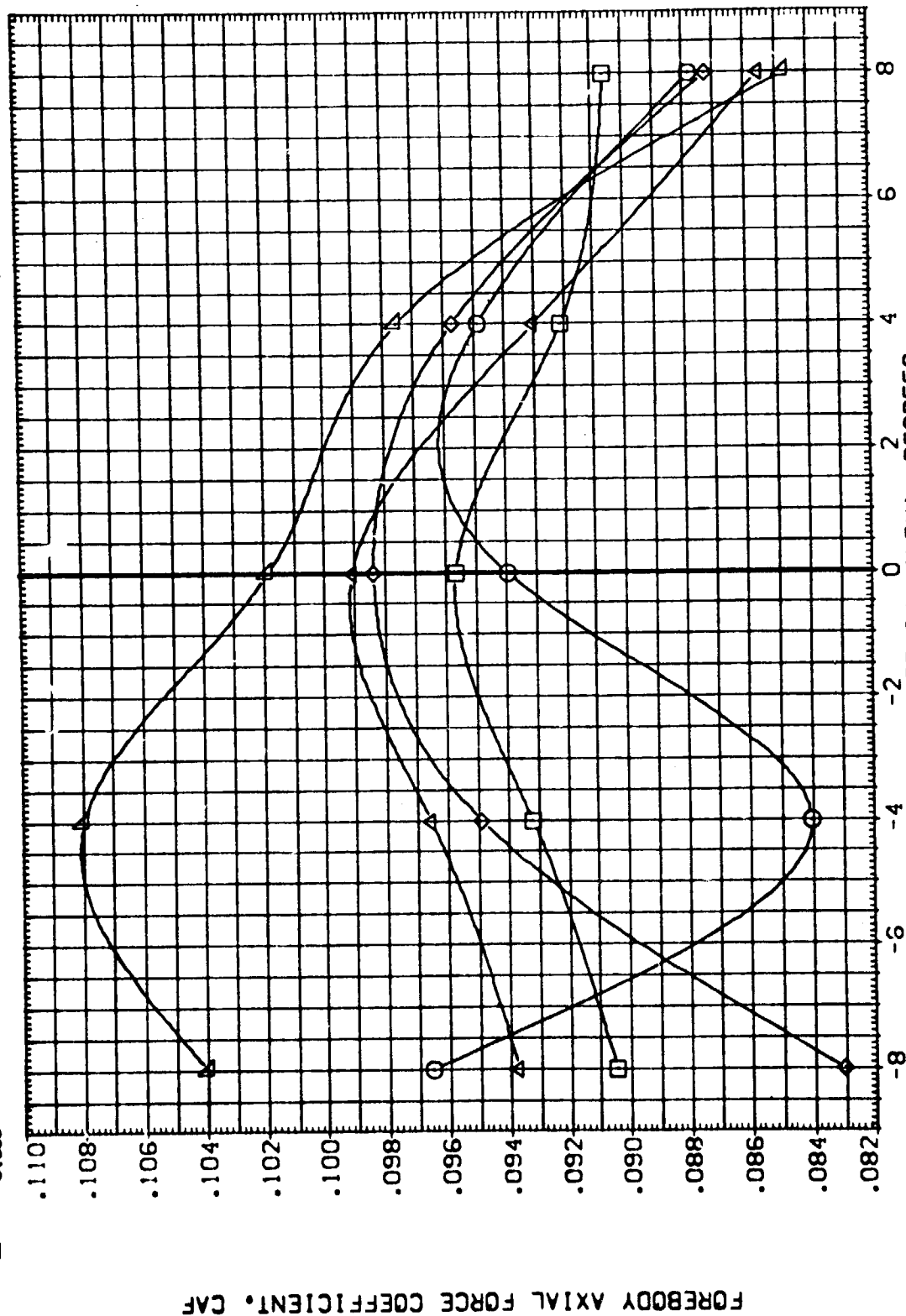


FIG. 11 LVAP (01 T12 S12 N25 AT11) • MACH = .95 (TANK + SRM BALANCE)

AMES 11-716 IA14A 01+112+S12N25+AT11 (TANK+SRM) (IB1137)

SYMBOL
 ▽
 ◇
 □
 ○

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 .955
 .000
 .000
 .000
 .000

ELEVON
 .000
 .000
 .000
 .000
 .000

RUDER
 .000
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210 50.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

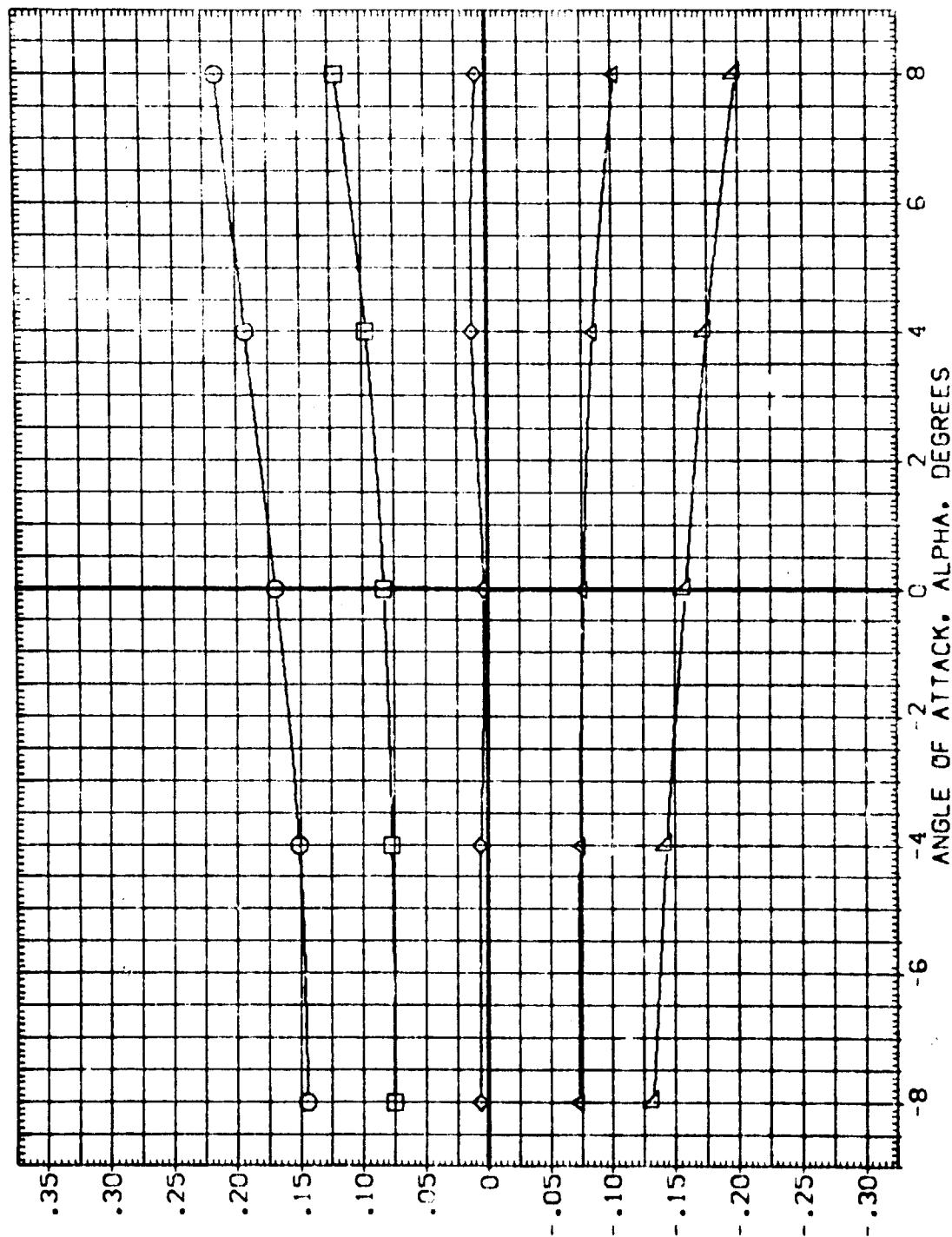


FIG. 11 LVAP (01 112 S12 N25 AT11) , MACH = .95 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1137)

SYMBOL
 -8.000
 -4.000
 .000
 4.000
 8.000

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 .955
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

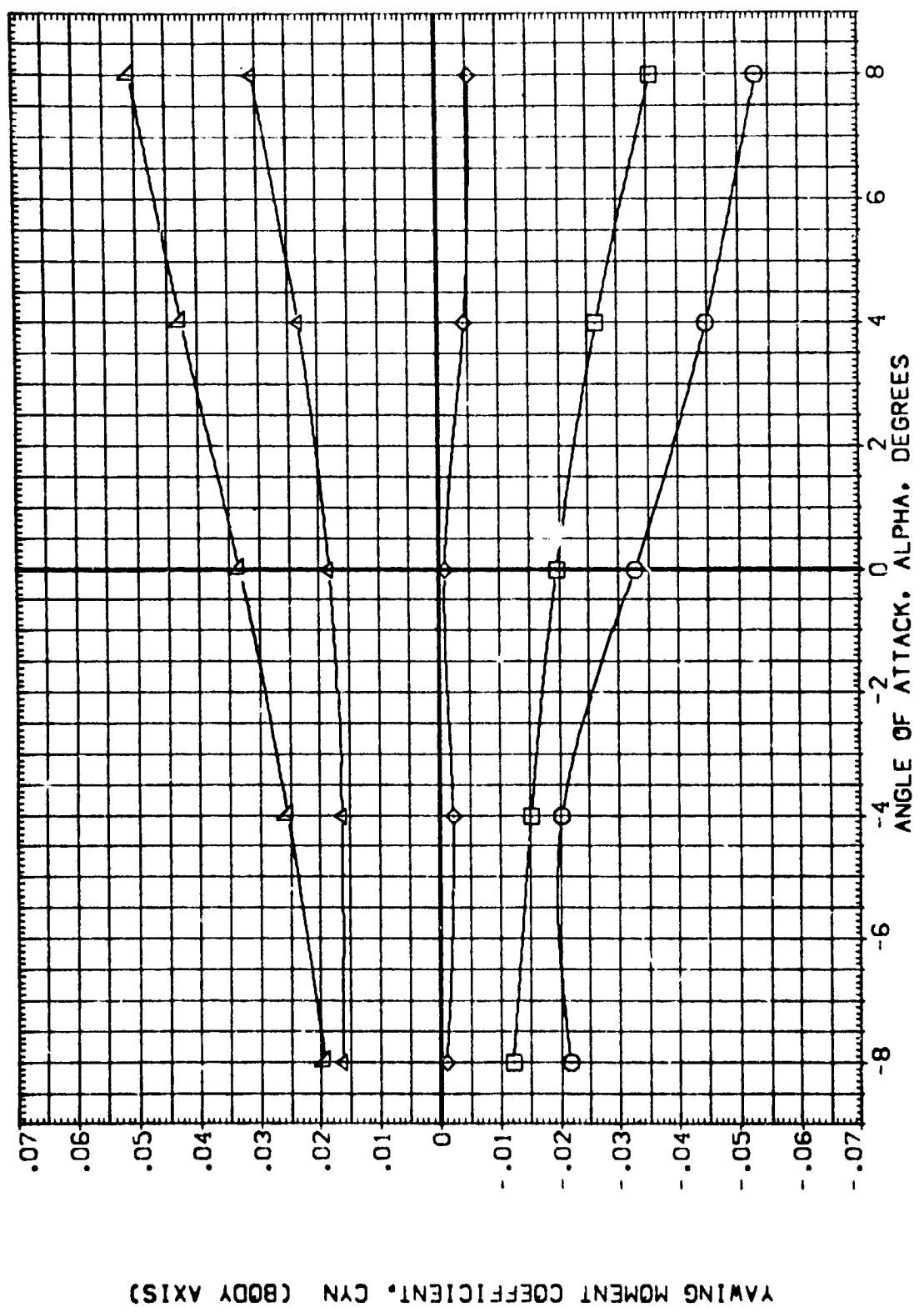


FIG. 11 LVAP (01 T12 S12 N25 AT11) , MACH = .95 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+112+S12N25+AT11 (TANK+SRM) (1B1137)

SYMBOL
 ○
 ◇
 □
 △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .955
 RUDDER .000
 ELEVON .000
 SPDRK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

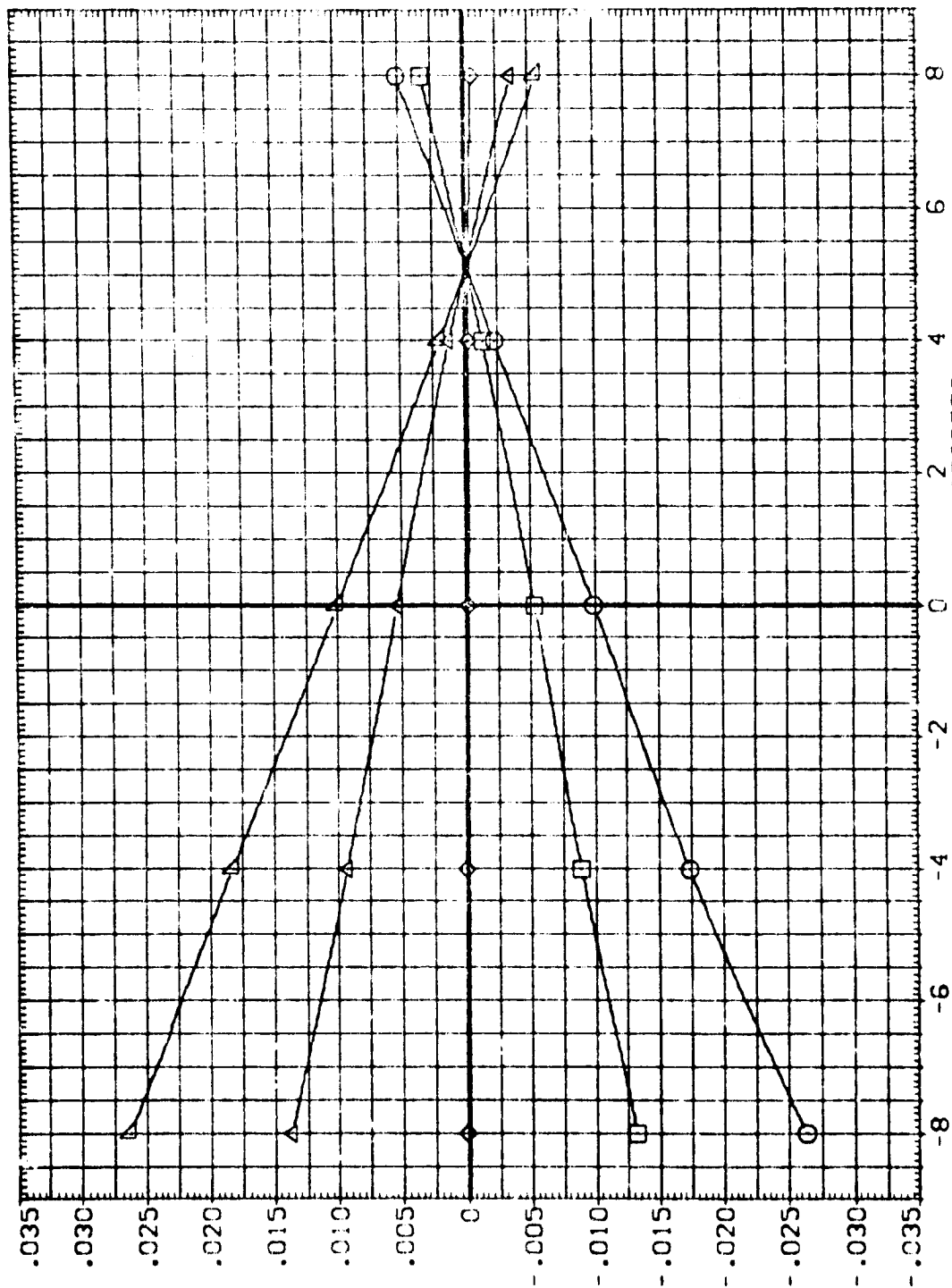


FIG. 11 LVAP (01 112 S12 N25 AT11) , MACH = .95 (TANK + SRM BALANCE)

AMES 11-716 IA14A 01+T12+S12N25+AT11 (TANK+SRM) (IB1138)

SYMBOL
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 1.052

RUDDER
 .000

ELEVON
 .000

SPOBRK
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.5930
 SCALE .0300

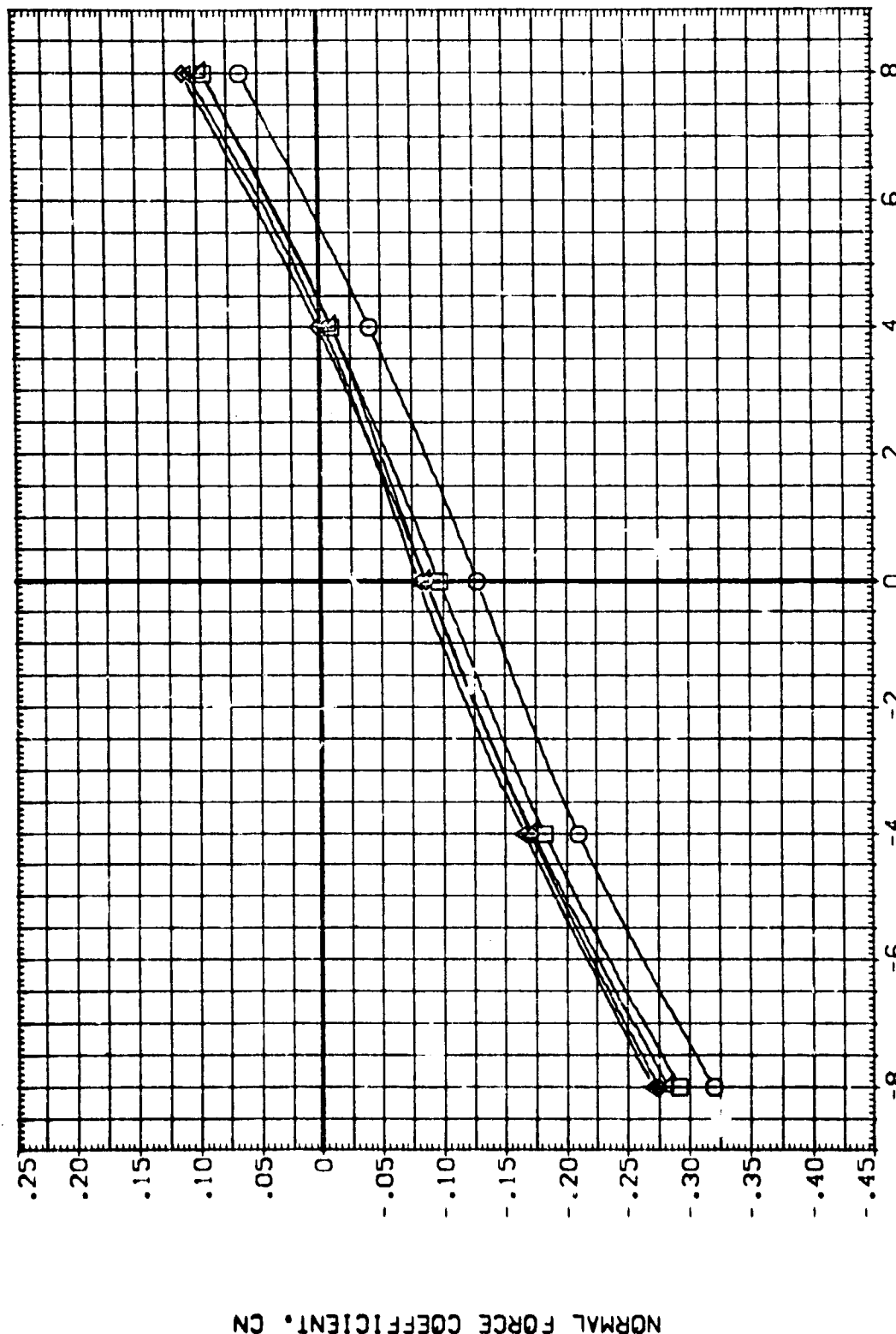


FIG. 12 LVAP (01 T12 S12 N25 AT11) , MACH =1.05 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (IB1138J)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	BETA	MACH	RUDDER	SREF	LREF	SO.FT.
○	-8.000	1.052	ELEVON	38.7080	38.7080	IN.
□	-4.000	.000	SPURK	38.7080	38.7080	IN.
△	.000	.000		.0000	.0000	IN.
▽	4.000	.000		.0000	.0000	IN.
	8.000			9.9800	9.9800	IN.
				SCALE		.0300

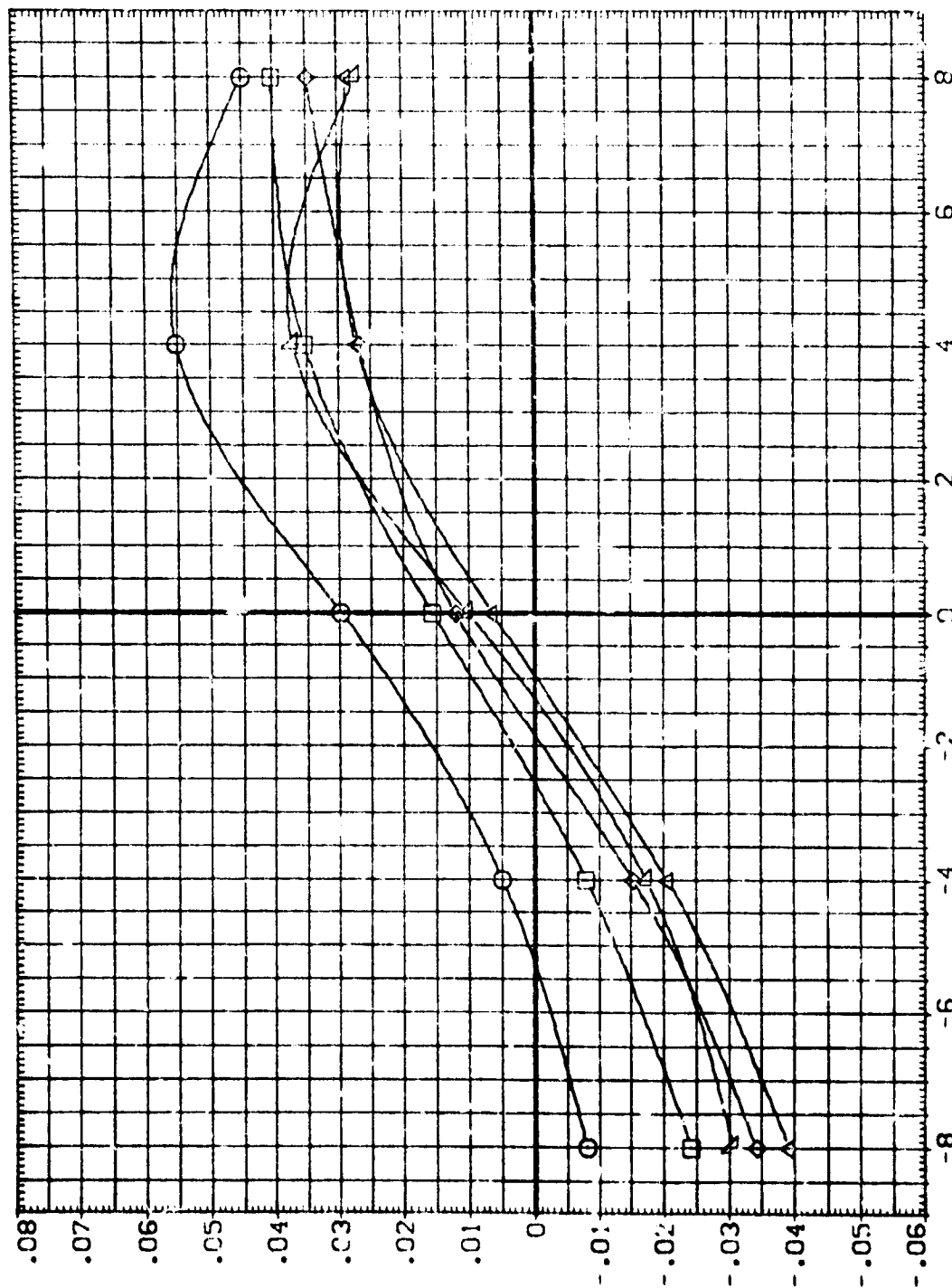


FIG. 12 LVAP (01 T12 S12 N25 AT11) , MACH =1.05 (TANK + SRM BALANCE)

PAC 100



AMES 11-716 1A14A 01 T12+S12N25+AT11 (TANK+SRM) (181138)

SYMBOL
000044

BETA
8.000
4.000
4.000
8.000

MACH
1.052
1.000
1.000
1.000

PARAMETRIC VALUES
ELEVON
SPDRK
ELEVON
SPDRK

REFERENCE INFORMATION
SREF 2.4210
LREF 38.7090
BREF 38.7090
XMRP .0000
YMRP .0000
ZMRP 9.9900
SCALE .0300

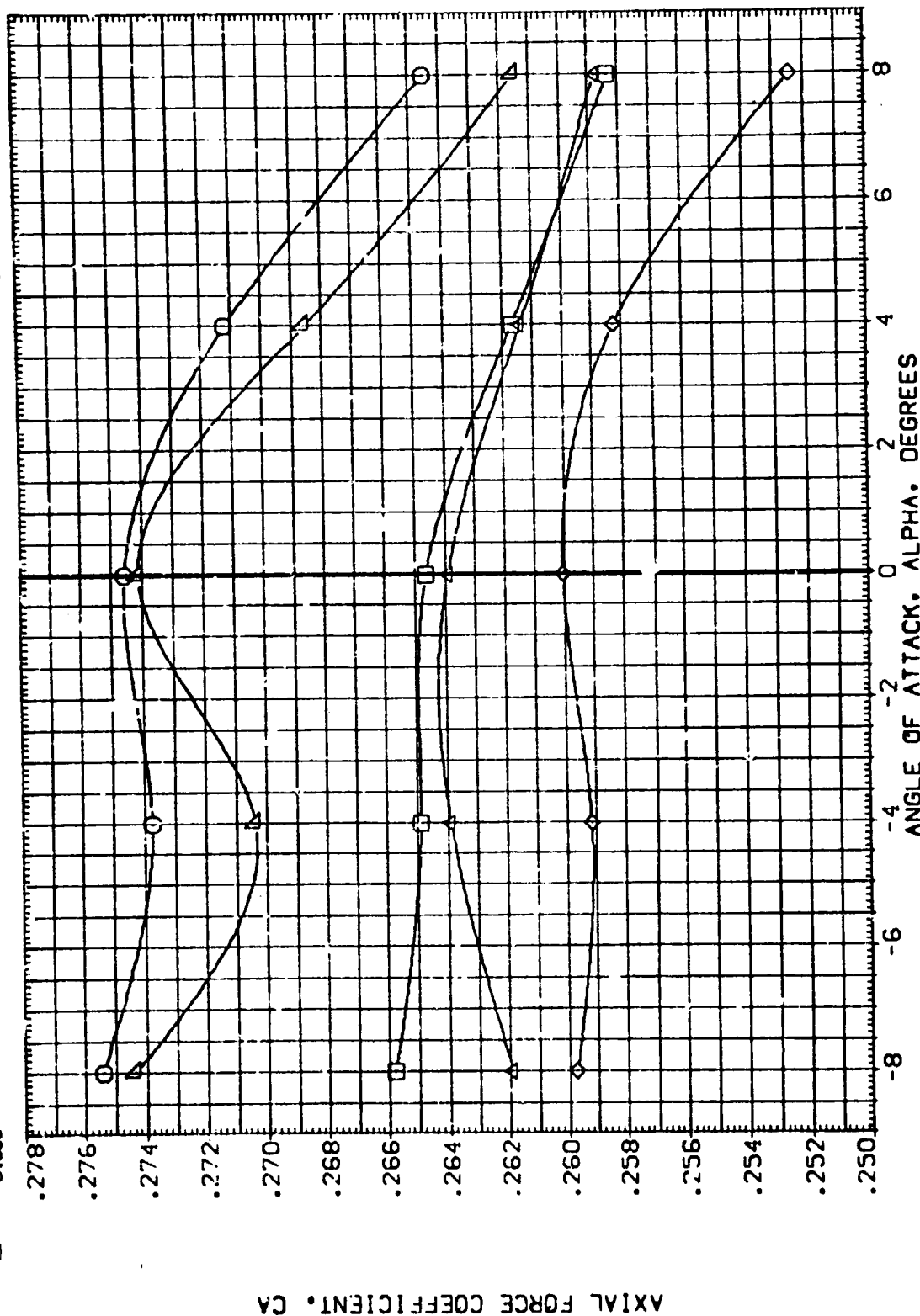


FIG. 12 LVAP (01 T12 S12 N25 AT11) . MACH = 1.05 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (IB:138)

SYMBOL
 ▽
 ◊
 □
 ○

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUOER
 .000
 .000
 .000

PARAMETRIC VALUES
 1.052
 ELEVON
 .000
 SPDRK
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.8900
 SCALE .0300
 50.FT.
 77.77.77

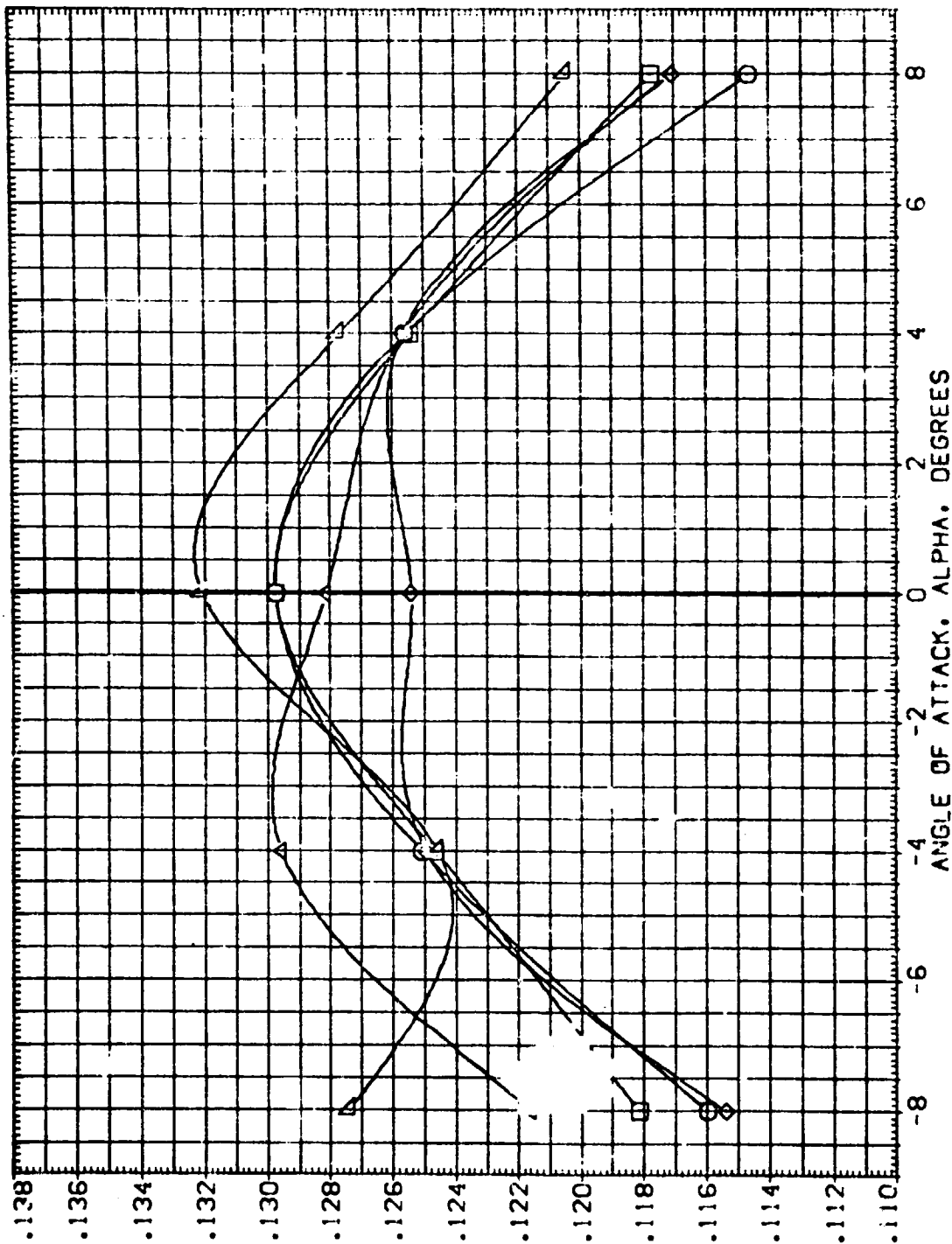


FIG. 12 LVAP (01 T12 S12 N25 AT11) • MACH =1.05 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1138)

SYMBOL BETA MACH RUDDER
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 1.052 ELEVON
 .000 SPEEDK
 .000

REFERENCE INFORMATION
 SREF 2.4210 SO.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.8930 IN.
 SCALE .0300

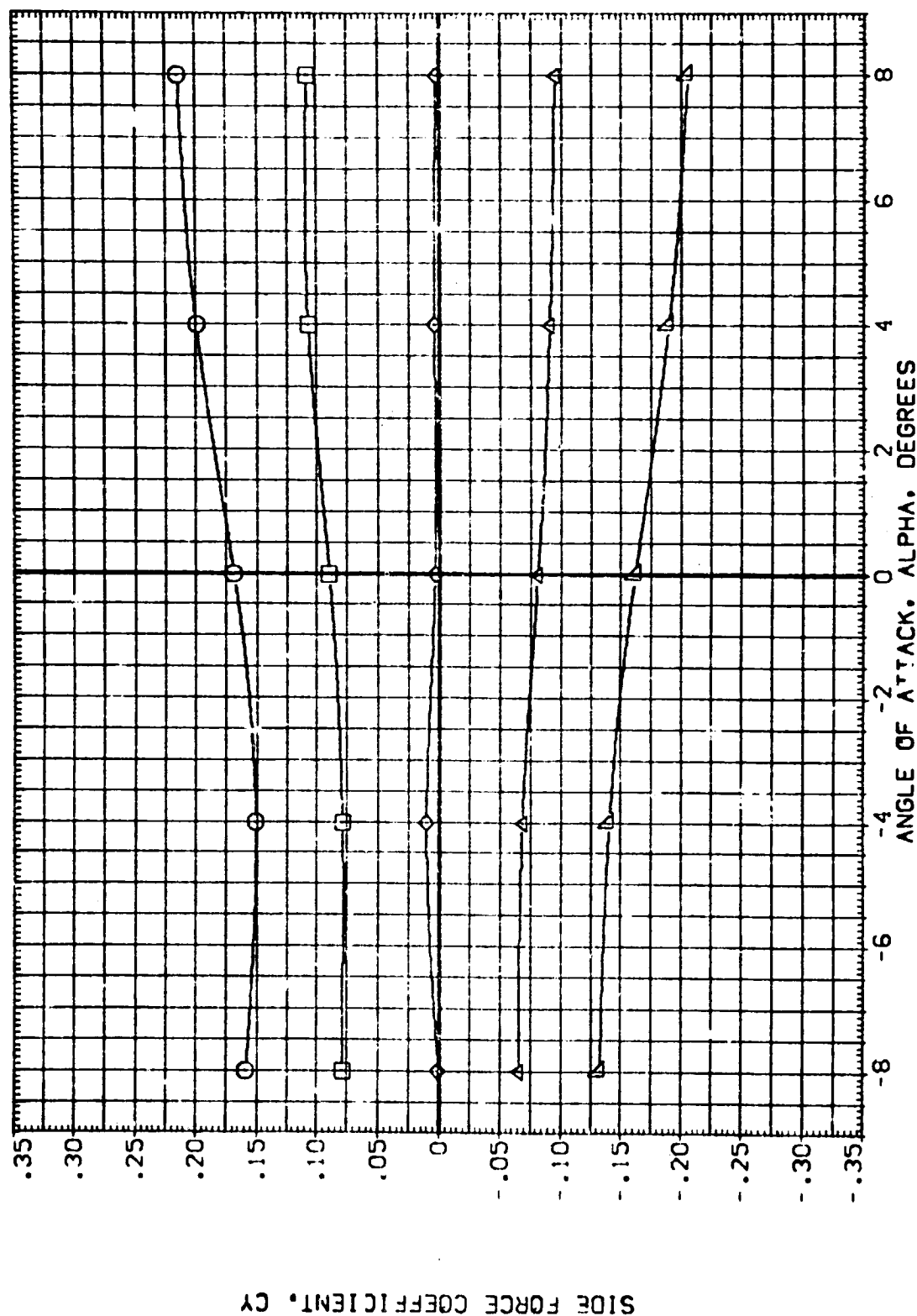


FIG. 12 LVAP (01 T12 S12 N25 AT11) , MACH =1.05 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1138)

SYMBOL	PARAMETRIC VALUES		REFERENCE INFORMATION	
	BETA	MACH	SREF	SC.FT.
□	-8.000	1.052	L REF	2.4210
□	-4.000	1.000	B REF	38.7090
◇	.000	.000	XMRP	38.7090
△	4.000	.000	YMRP	.0000
▽	8.000	.000	ZMRP	9.9500
			SCALE	.0300

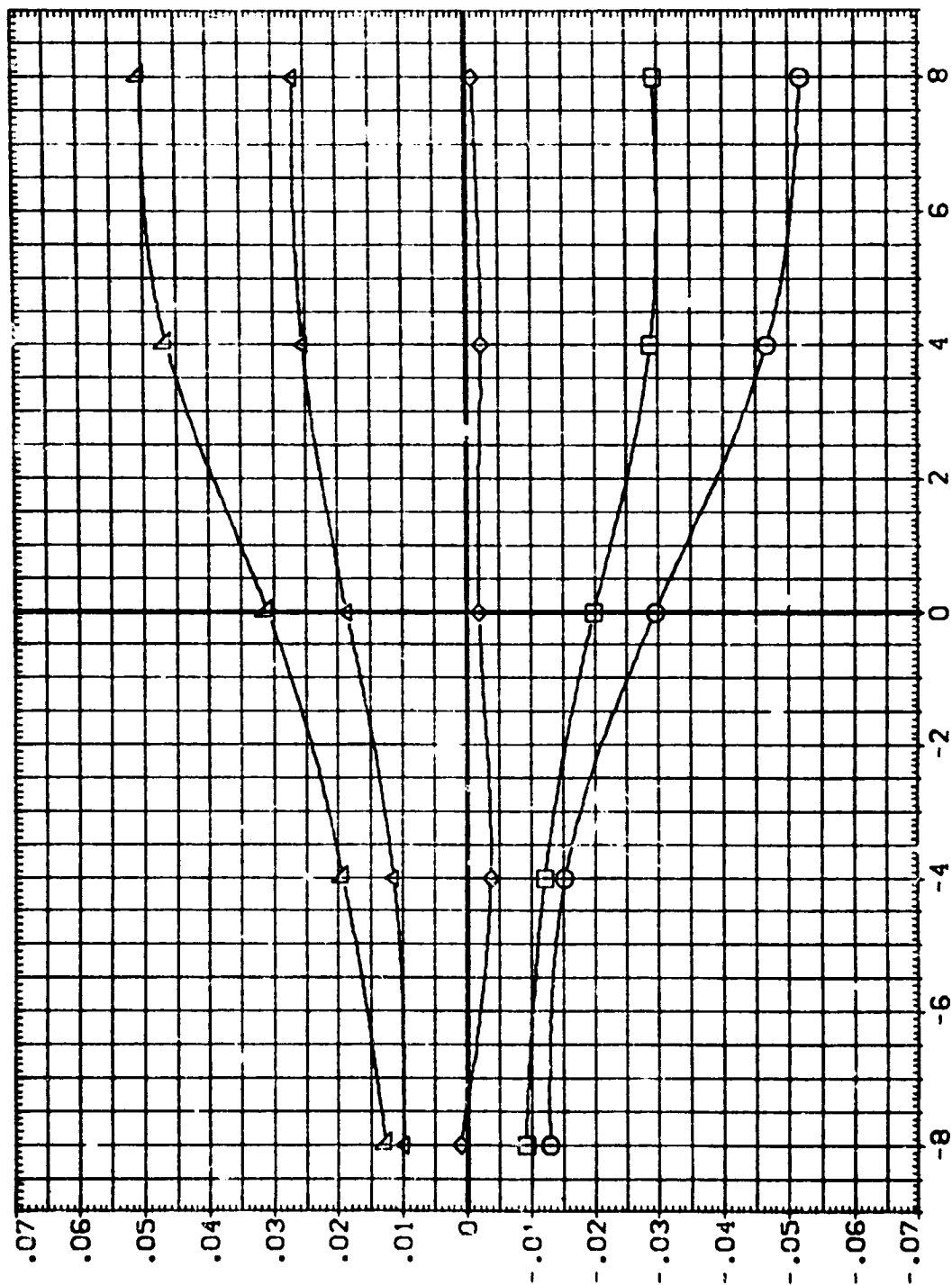


FIG. 12 LVAP (01 T12 S12 N25 AT11) , MACH =1.05 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01112+S12N25+AT11 (TANK+SRM) (1B1138)

SYMBOL
 7
 4
 0
 0
 0
 0

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.052
 ELEVON .000
 SPOON .000

REF
 L REF
 B REF
 X REF
 Y REF
 Z REF
 SCALE

REFERENCE INFORMATION
 SQ. FT.
 IN.
 IN.
 IN.
 IN.
 IN.
 IN.

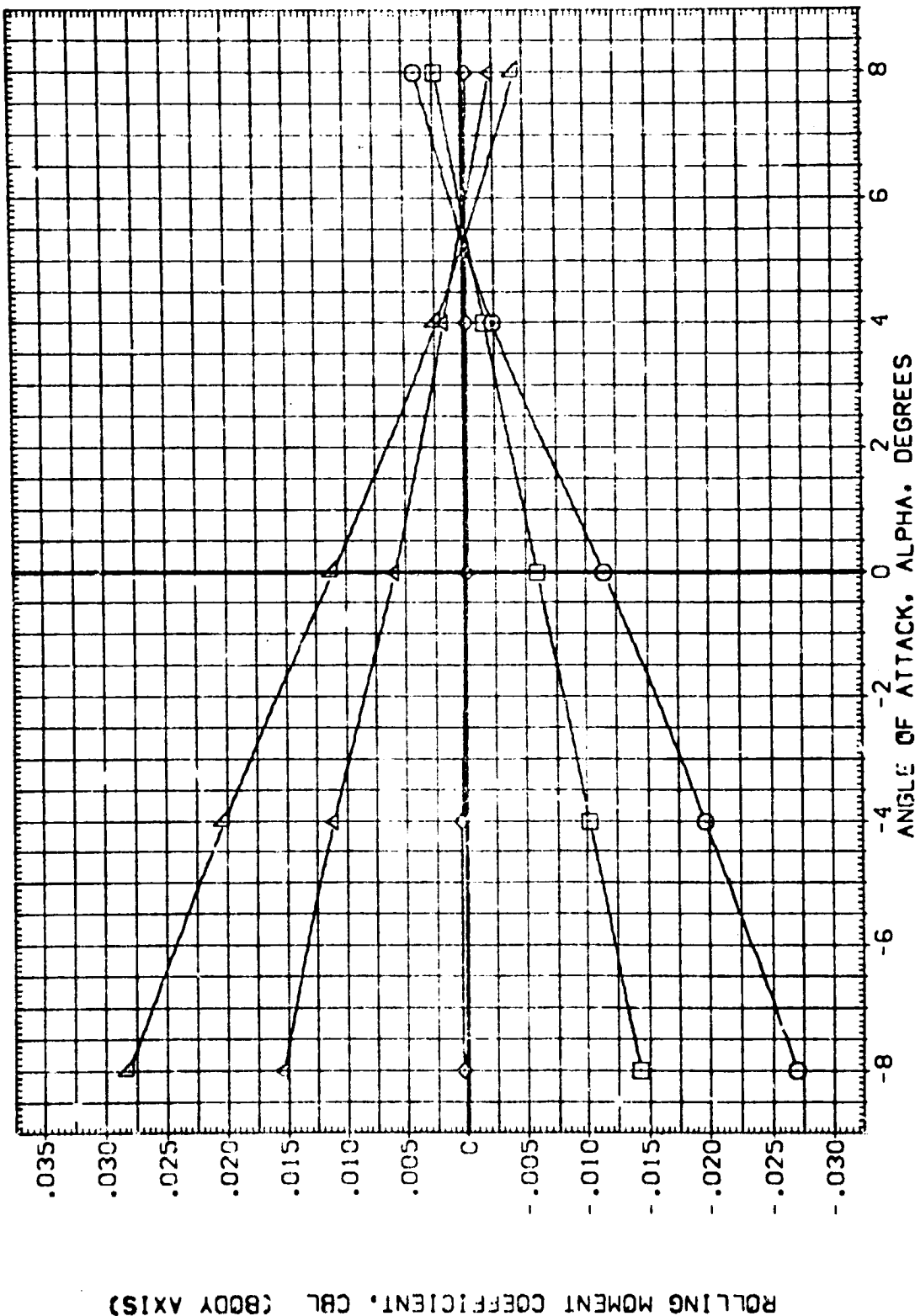


FIG. 12 LVAP (01 T12 S12 N25 AT11) • MACH =1.05 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1139)

SYMBOL
 □ □ □ □
 ▽ ▽ ▽ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER
 1.154
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 SPOBRK

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .3300
 SO.FT. 11.00
 IN. 11.00
 IN. 11.00
 IN. 11.00
 IN. 11.00

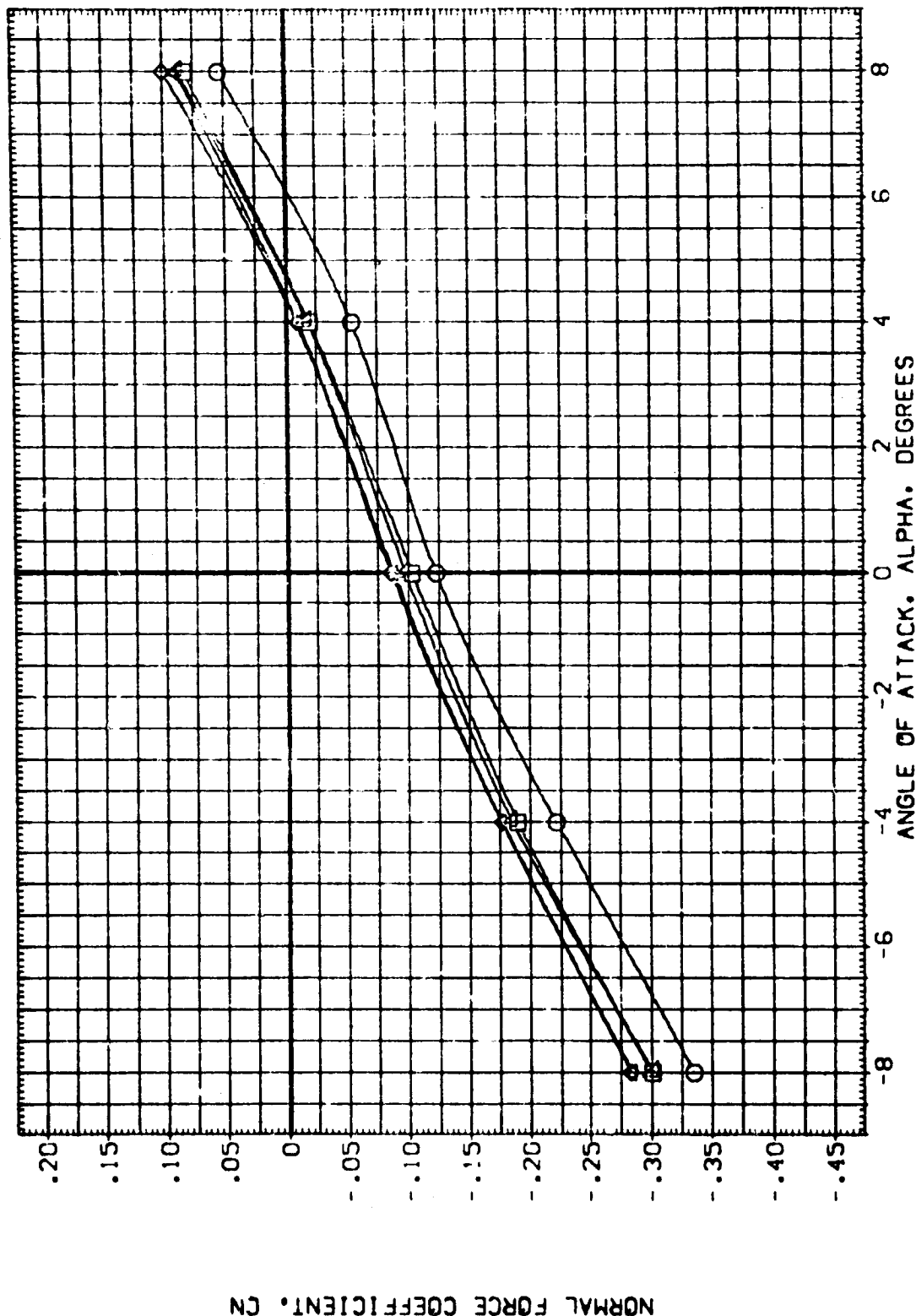


FIG. 13 LVAP (01 T12 S12 N25 AT11) , MACH =1.15 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1139)

SYMBOL
 001047

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.154
 ELEVON .000
 RUDDER .000
 SPORAK .000

REFERENCE INFORMATION
 SPREF 2.4210 SQ.FT.
 LREF 38.7050 IN.
 BPREF 38.7050 IN.
 XMPD .0000 IN.
 YMPD .0000 IN.
 ZMPD 9.9900 IN.
 SCALE .0300

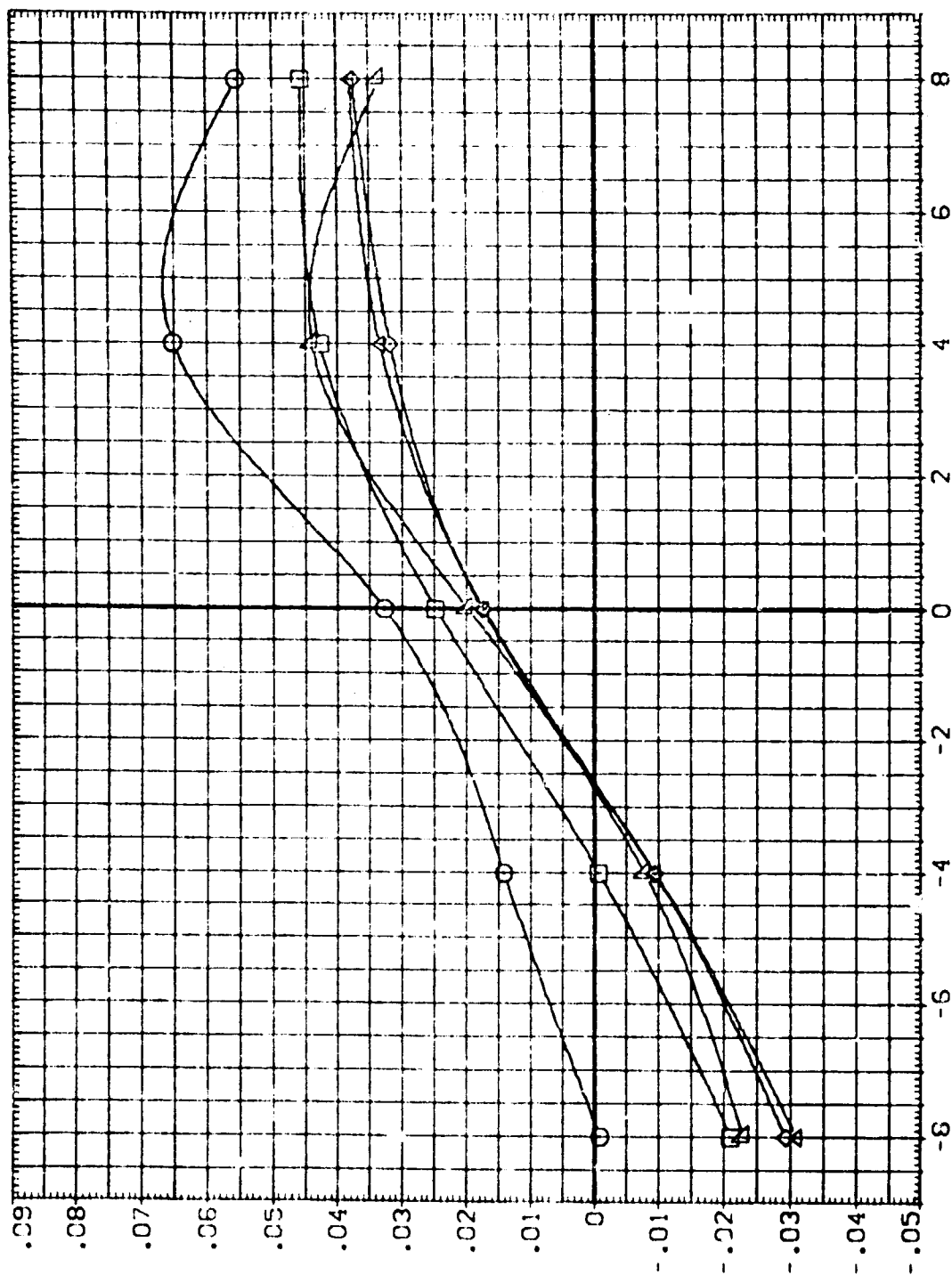


FIG. 13 LVAP (01 T12 S12 N25 AT11) , MACH =1.15 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (181139)

SYMBOL	BETA	PARAMETRIC VALUES		REFERENCE INFORMATION	
		MACH	ELEVON	SREF	SQ.FT.
○	-8.000	1.154	.000	LREF	38.7090
◇	-4.000	.000	.000	BREF	38.7090
△	.000	.000	.000	XREF	1.0000
□	8.000	.000	.000	YREF	1.0000
				ZREF	9.9900
				SCALE	.0300

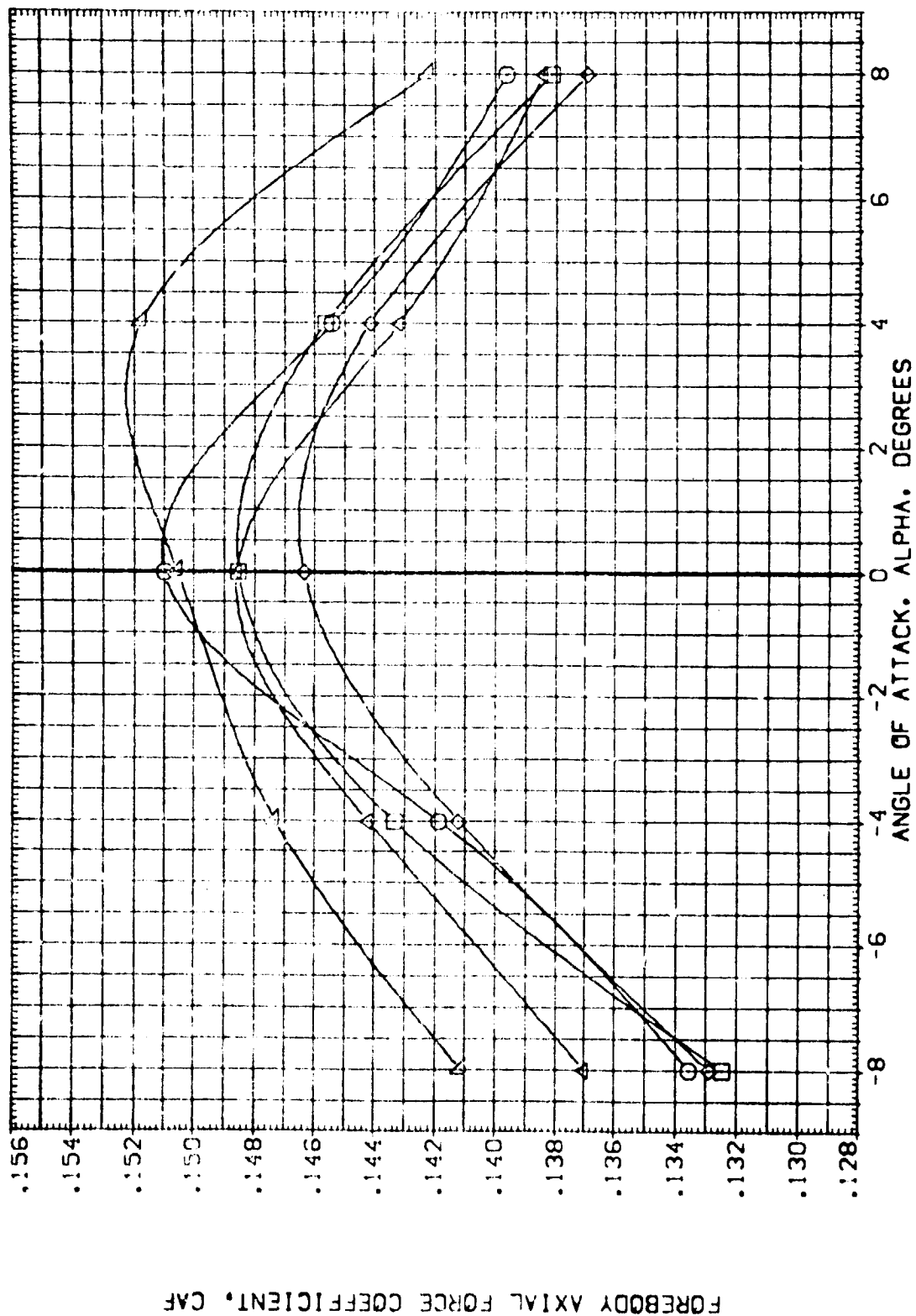


FIG. 13 LVAP (01 T12 S12 N25 AT11) , MACH =1.15 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01 T12 S12 N25 AT11 (TANK+SRM) (1B1139)

SYMBOL
 1
 2
 3
 4
 5

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 1.154
 .000
 .000
 .000
 .000

ELEVON
 .000
 .000
 .000
 .000
 .000

SP08RK
 .000
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 XREF 38.7090
 YMRP .0000
 ZMRP .0000
 SCALE 9.9900
 SQ.FT. 2.4210
 IN. 38.7090
 IN. 38.7090
 IN. .0000
 IN. .0000
 IN. 9.9900
 IN. 9.9900

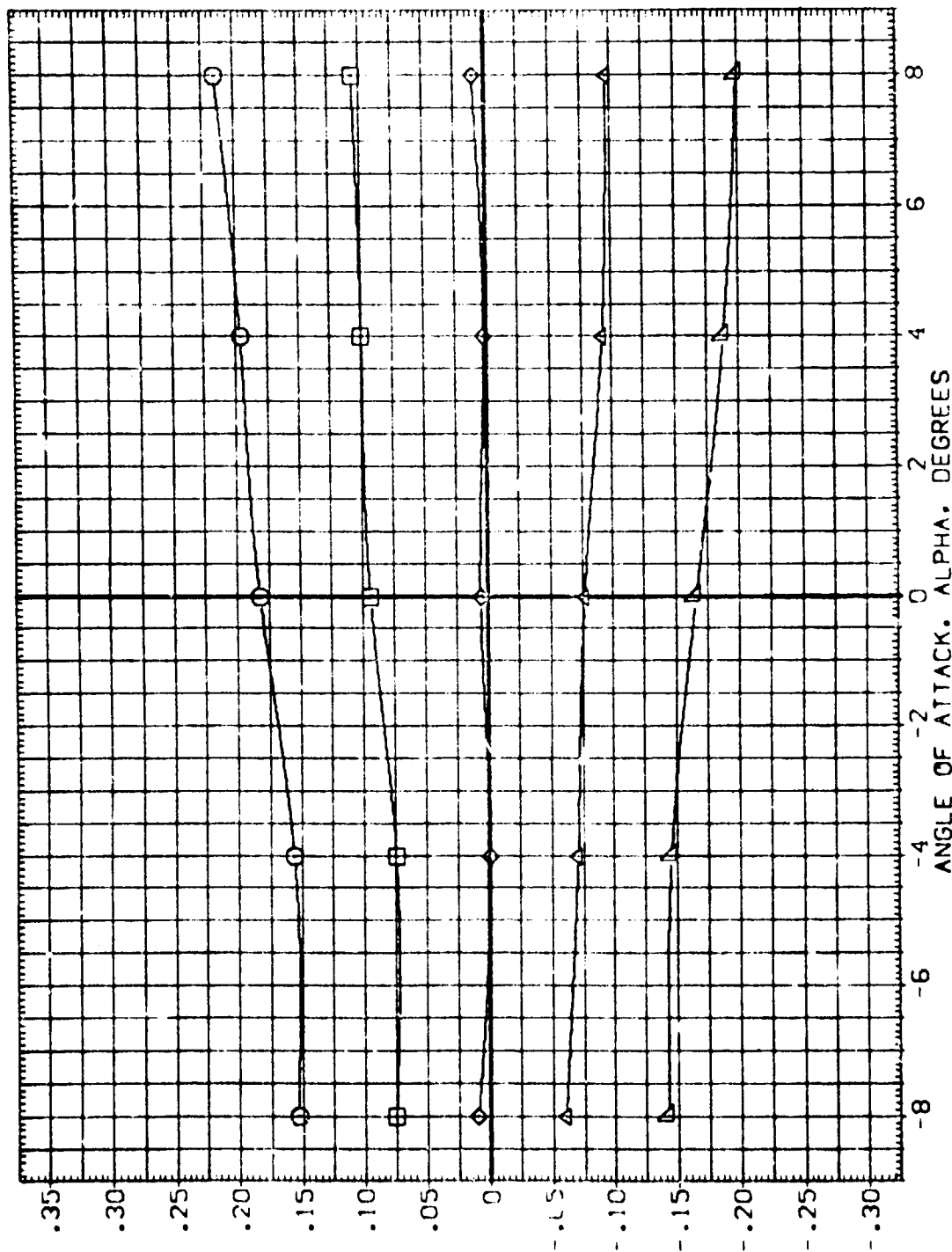


FIG. 13 LVAP (01 T12 S12 N25 AT11) , MACH =1.15 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1139)

SYMBOL	PARAMETRIC VALUES		REFERENCE INFORMATION	
	BETA	SO. FT.	SREF	SO. FT.
-8.000	MACH	1.154	LREF	2.4210
-4.000	RUDER	.000	SREF	38.7080
.000		.000	XMRP	38.7050
4.000		.000	YMRP	.0000
8.000		.000	ZMRP	.0000
			SCALE	9.9900
				.0300

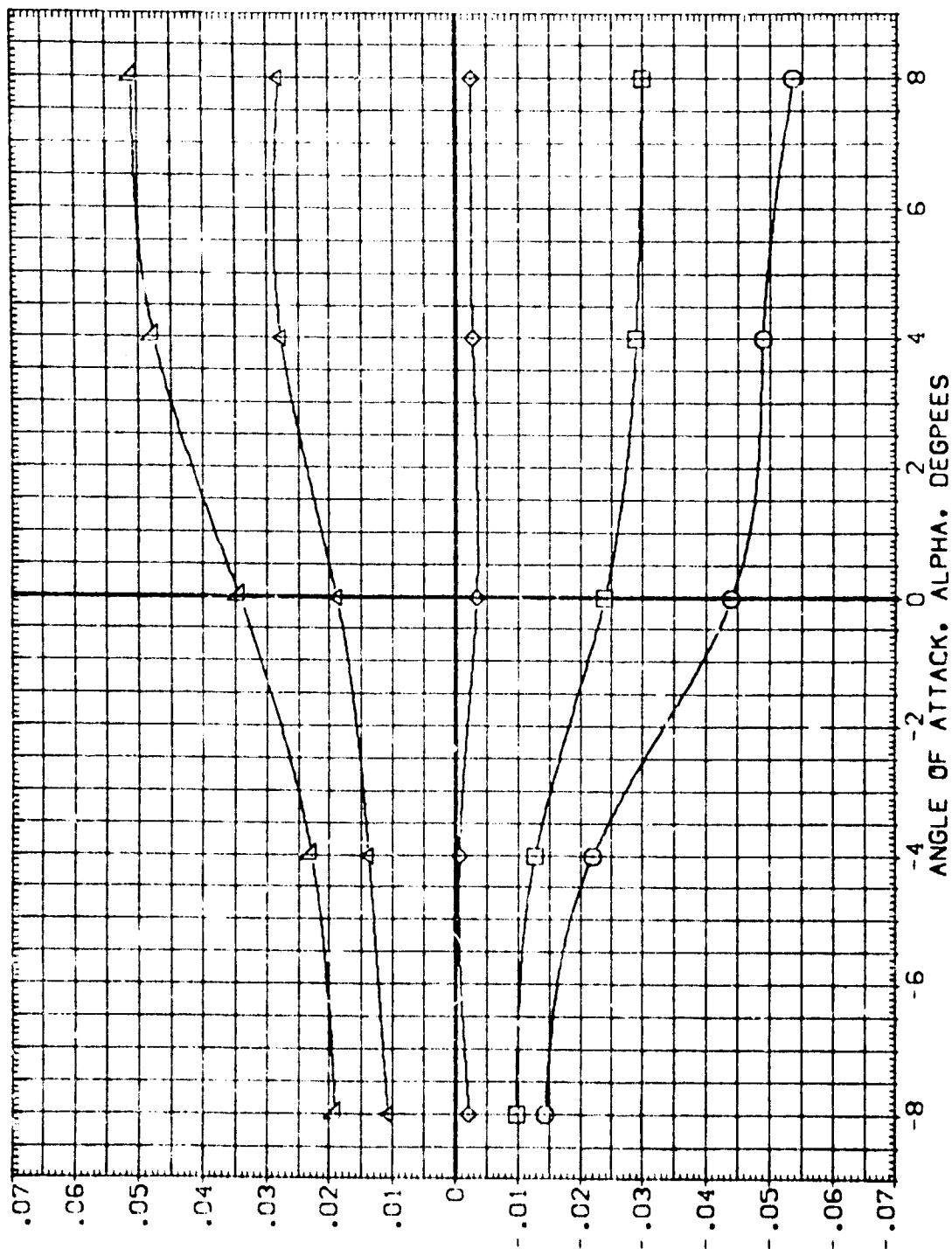


FIG. 13 LVAP (01 T12 S12 N25 AT11) • MACH =1.15 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (IB1139)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.154
 RUDDER .000
 ELEVON .000
 SPOILER .000

REFERENCE INFORMATION
 SREF 2.4210
 REF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.8500
 SCALE .0300

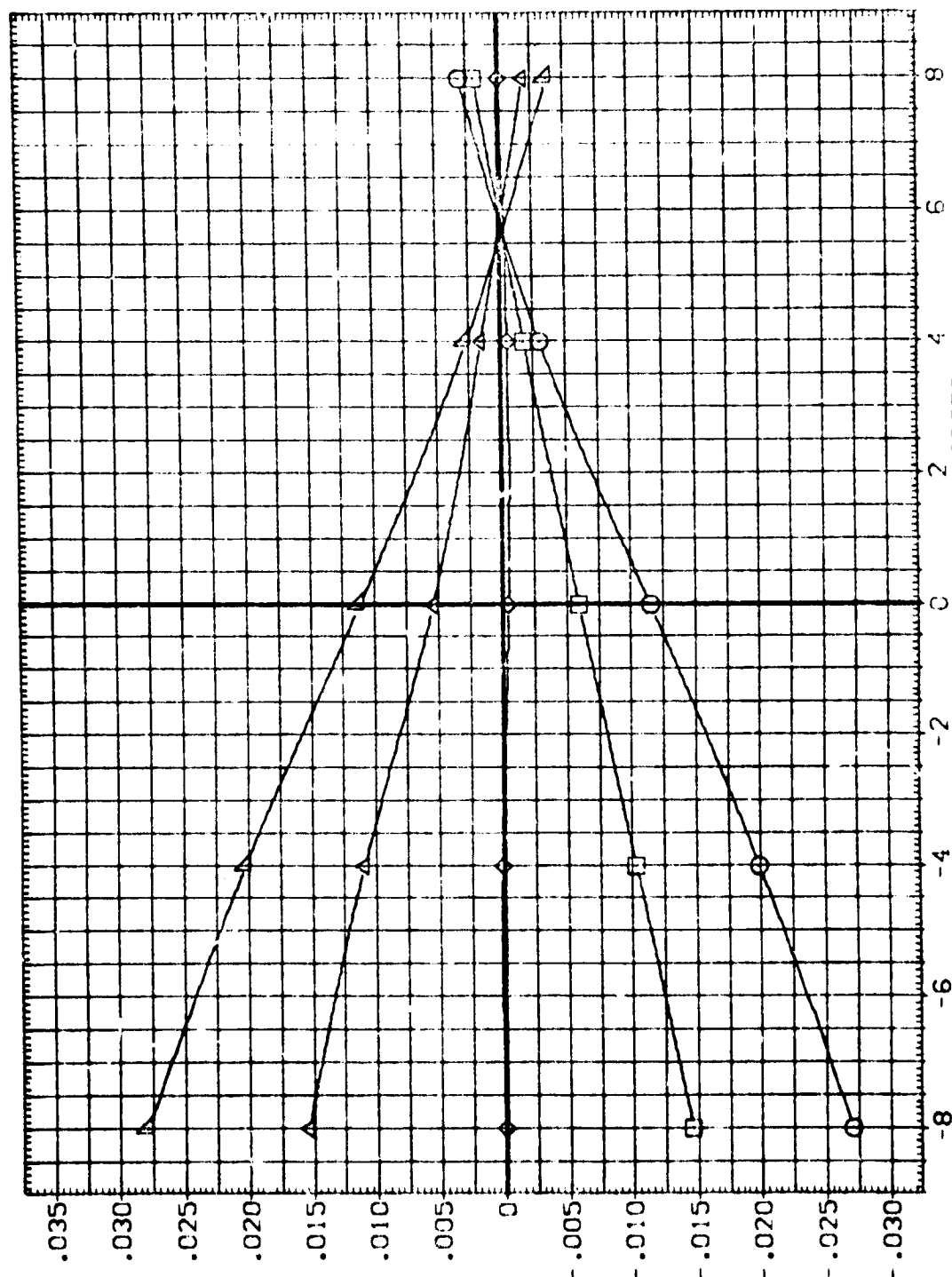


FIG. 13 LVAP (01 T12 S12 N25 AT11) . MACH =1.15 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (IB1140)

SYMBOL	BETA	PARAMETRIC VALUES		REFERENCE INFORMATION	
		MACH	ELEVON	SREF	SG.FT.
□	-8.000	1.398	.000	LREF	38.709C
◇	-4.000	.000	.000	BREF	38.709C
△	.000	.000	.000	XMRP	.0000
▽	4.000	.000	.000	YMRP	.0000
∇	8.000	.000	.000	ZMRP	9.9500
				SCALE	.0300

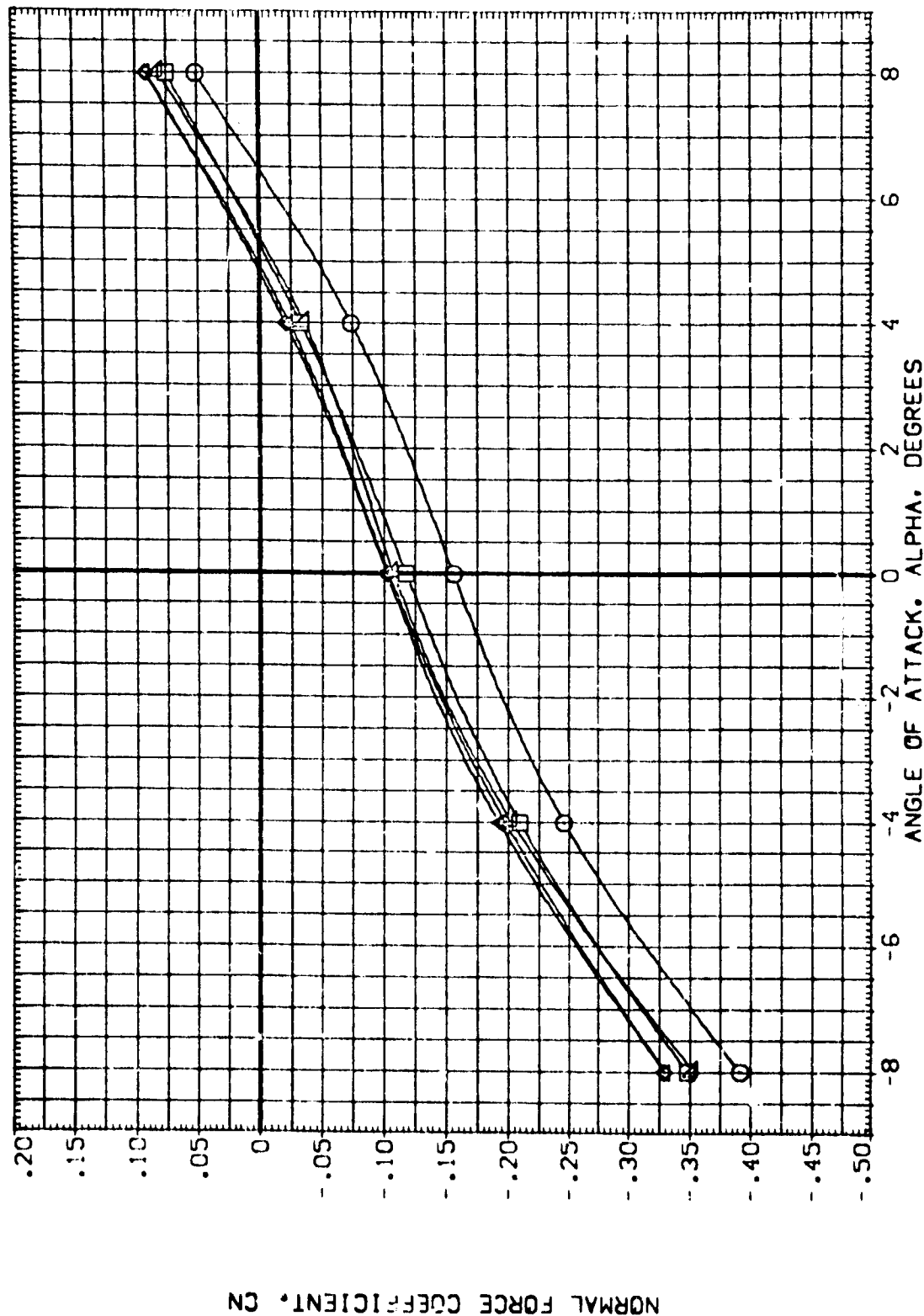


FIG. 14 LVAP (01 T12 S12 N25 AT11) , MACH = 1.4 (TANK + SRM BALANCE)

AMES 11-716 IA14A 01+T12+S12N25+AT11 (TANK+SRM) (IB1140)

SYMBOL
 ○ □ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.398
 ELEVON .000
 SPOBRK .000

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

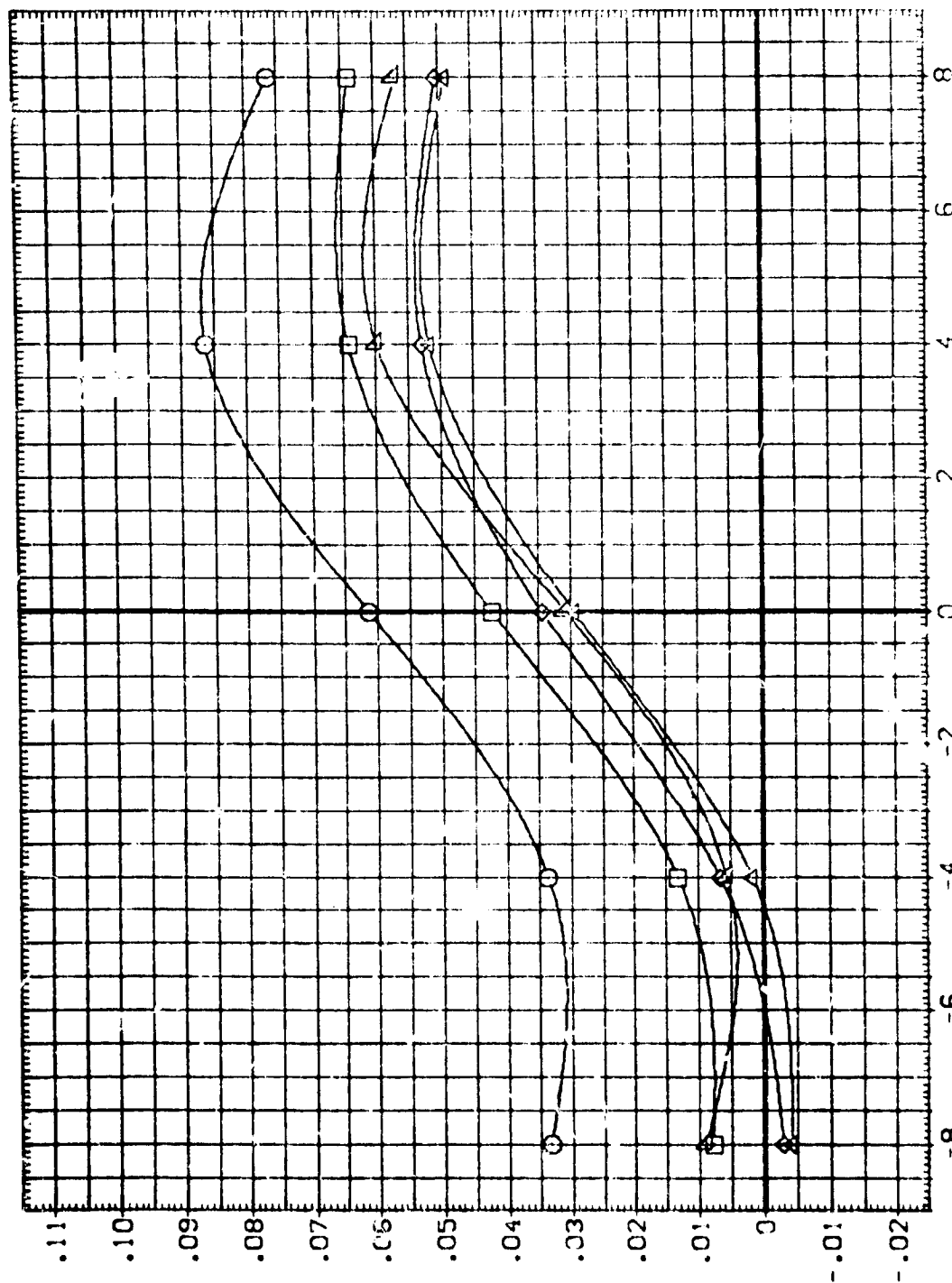


FIG. 14 LVAP (01 T12 S12 N25 AT11) , MACH = 1.4 (TANK + SRM BALANCE)

C-2

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1140)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.398
 RUDDER .000
 ELEVON .000
 SPDRK .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.2900 IN.
 SCALE .0300

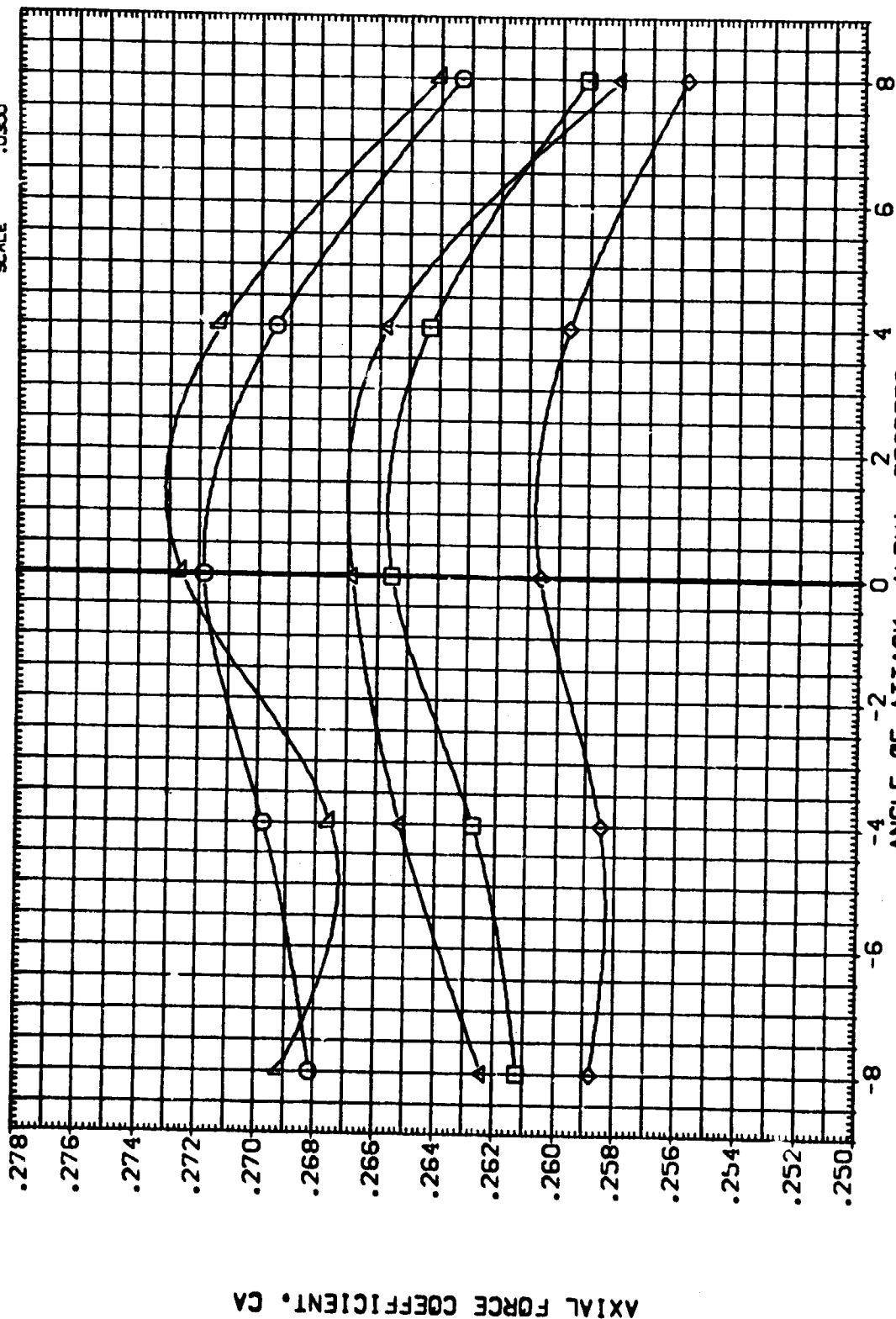


FIG. 14 LVAP (01 T12 S12 N25 AT11) , MACH = 1.4 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (181140)

SYMBOL
 ◊ ◻ ◴ ◴

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 1.398
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 .000
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

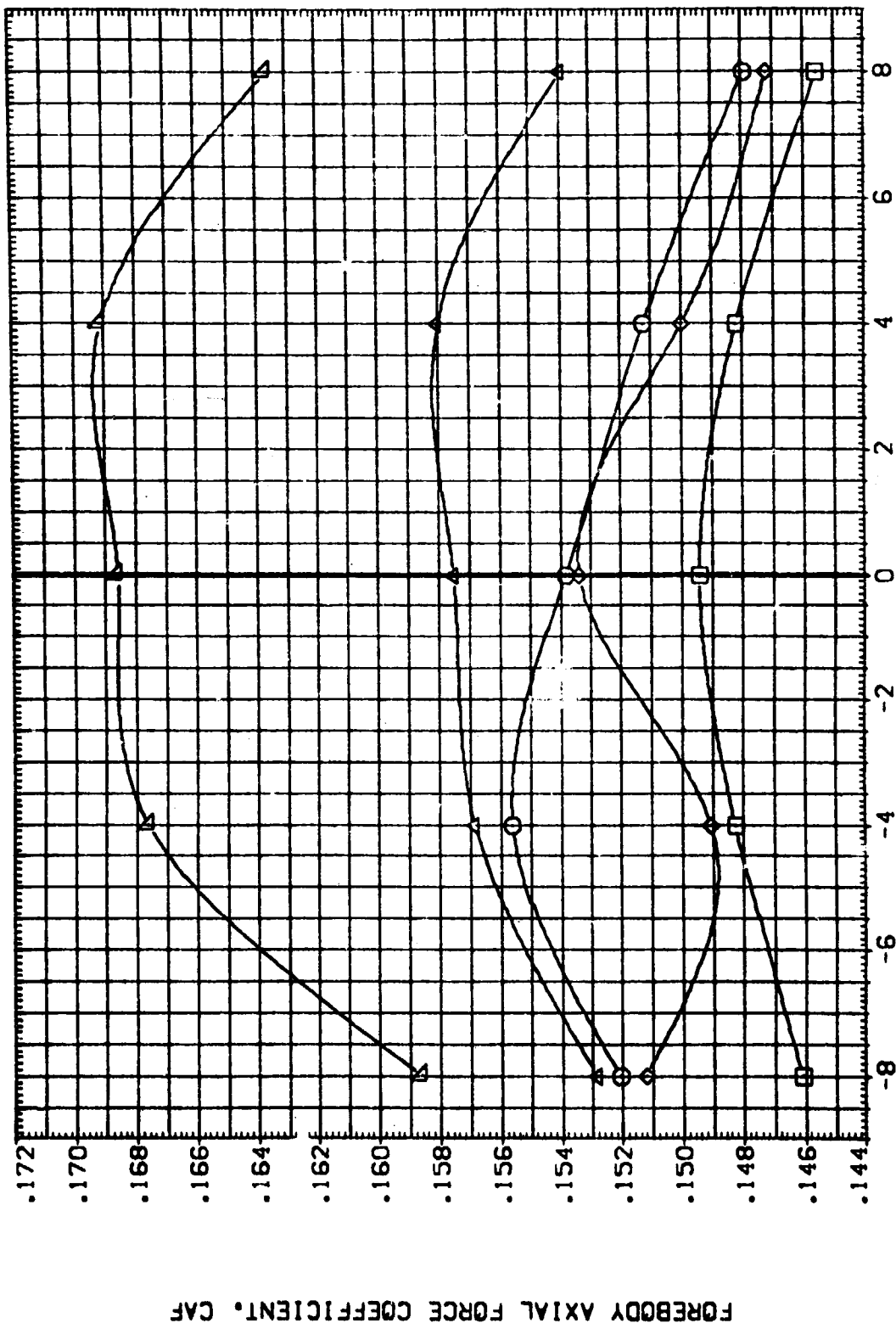


FIG. 14 LVAP (01 T12 S12 N25 AT11) , MACH = 1.4 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1140)

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

PARAMETRIC VALUES
 MACH 1.398
 ELEVON .000
 RUDDER .000
 SPDRK .000

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

SYMBOL
 ▽ □ ◇ △

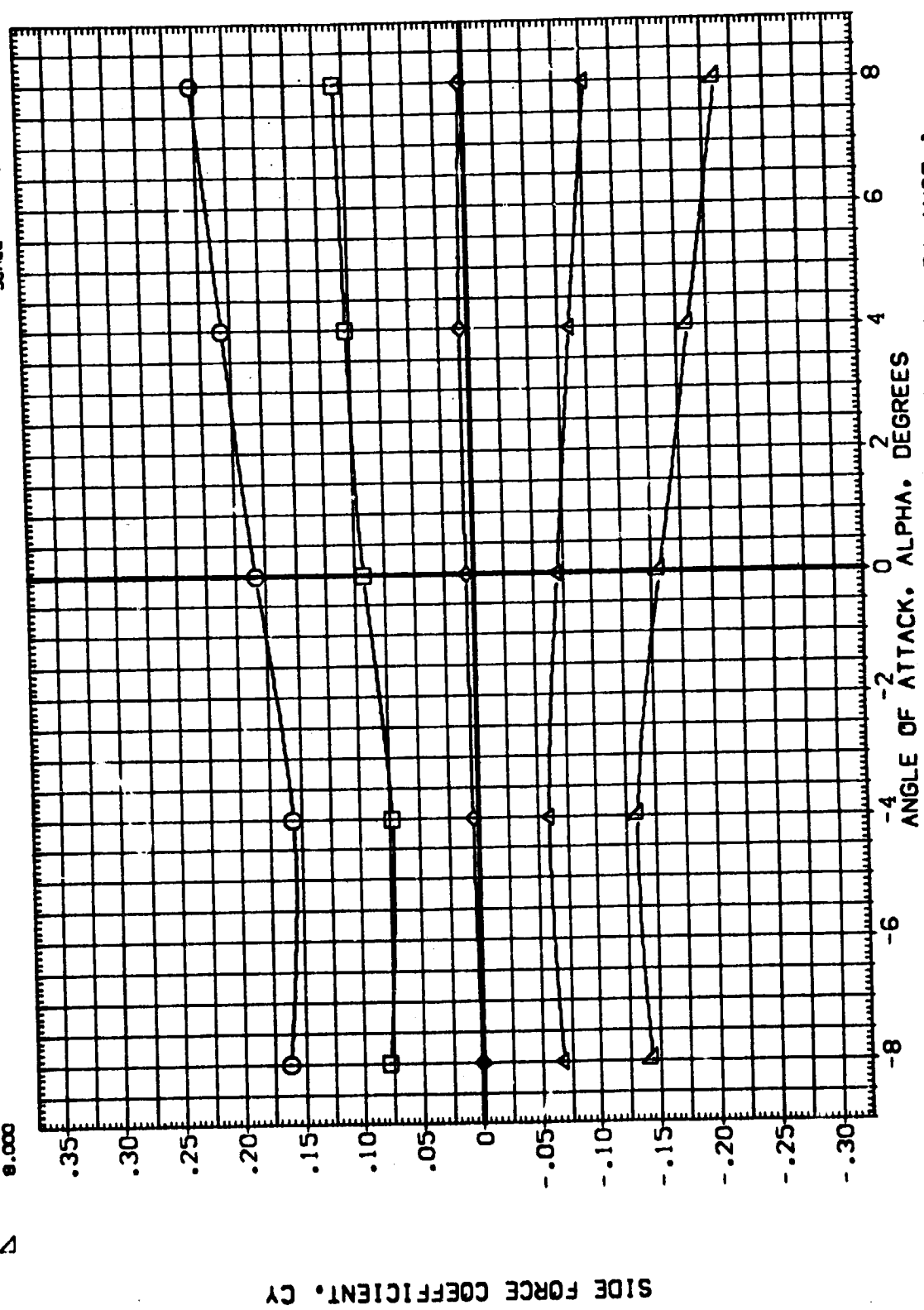


FIG. 14 LVAP (01 T12 S12 N25 AT11) • MACH = 1.4 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1140)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.358
 RUDDER .000
 ELEVON .000
 SPDRK .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

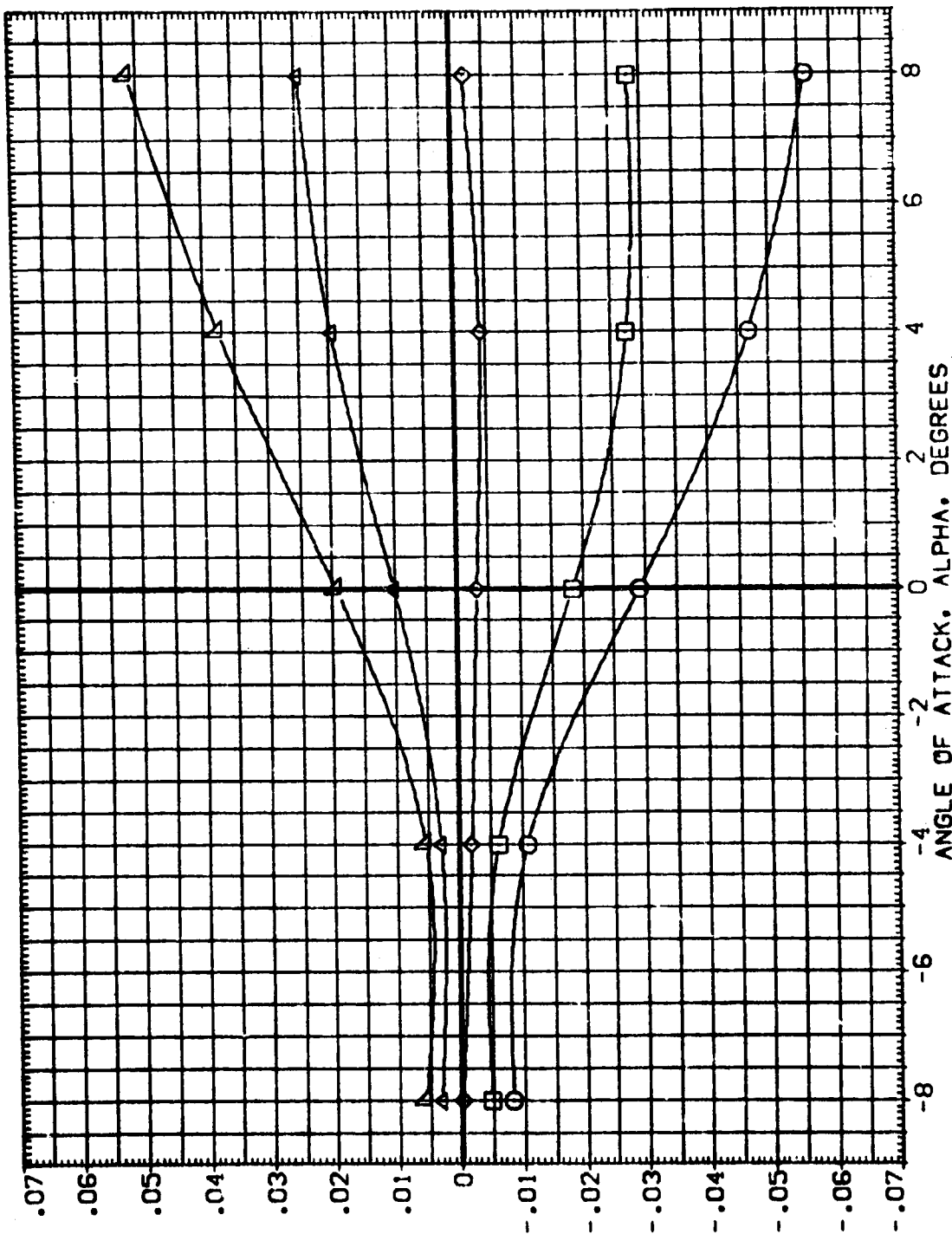


FIG. 14 LVAP (01 T12 S12 N25 AT11) , MACH = 1.4 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25+AT11 (TANK+SRM) (1B1140)

SYMBOL
 ▽
 ◇
 ○
 □
 △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.398
 ELEVON .000
 SPOBRK .000

REF
 2.4210
 38.7090
 38.7090
 .0000
 .0000
 9.8900
 .0300

REFERENCE INFORMATION
 SQ.FT.
 2.4210
 38.7090
 38.7090
 .0000
 .0000
 9.8900
 .0300

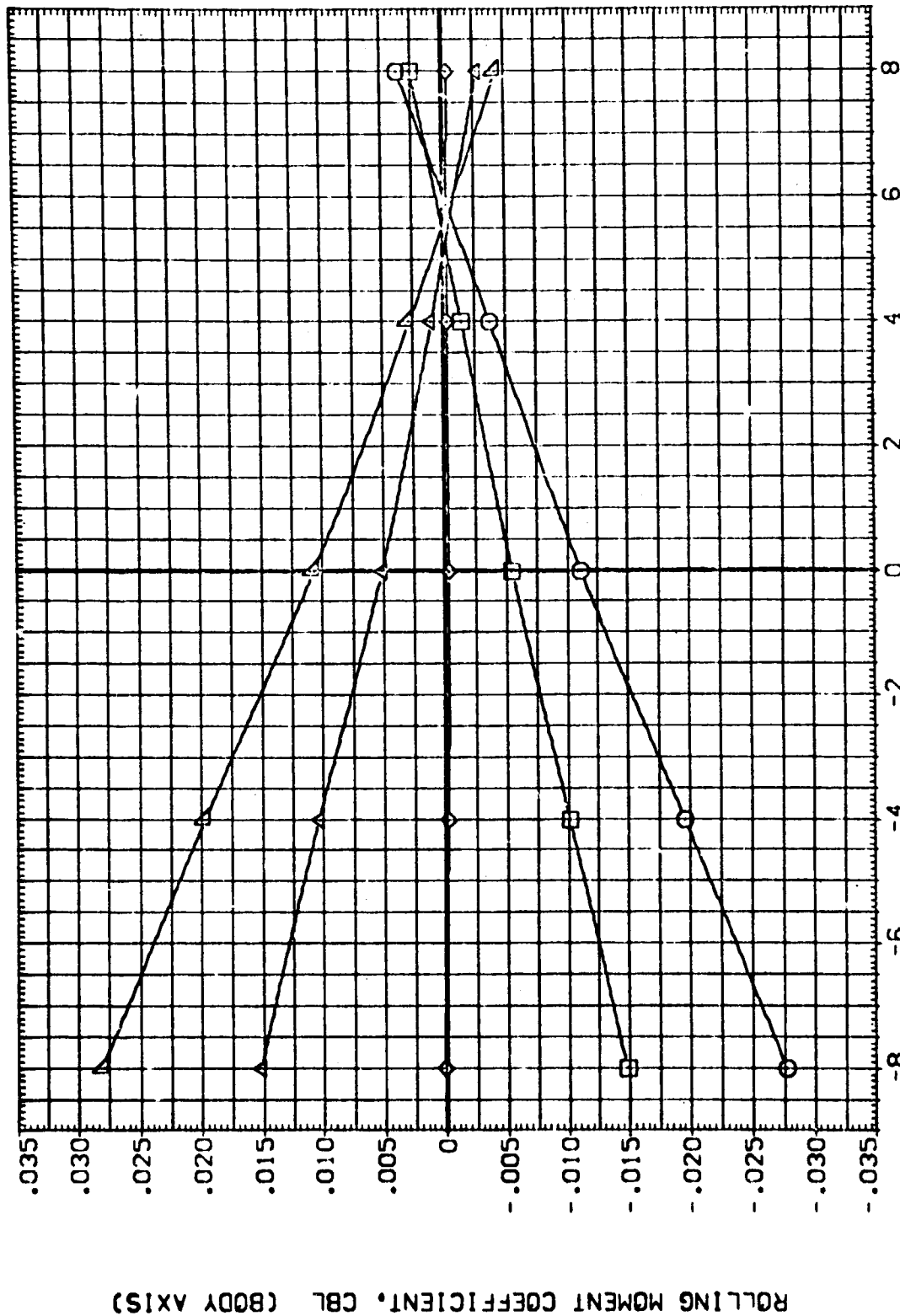


FIG. 14 LVAP (01 T12 S12 N25 AT11) • MACH = 1.4 (TANK + SRM BALANCE)

NORMAL FORCE COEFFICIENT, CN

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1141)

SYMBOL	BETA	MACH	PARAMETRIC VALUES	REFERENCE INFORMATION
○	-8.000	FLUDER	.597 ELEVON	SRF 2.4210
◇	-4.000		.000 SPOBRK	LRF 38.7090
◇	.000			BRF 38.7090
◇	4.000			XMRP .0000
◇	8.000			YMRP .0000
△				ZMRP 9.9900
				SCALE .0000
				SO.FT. N.

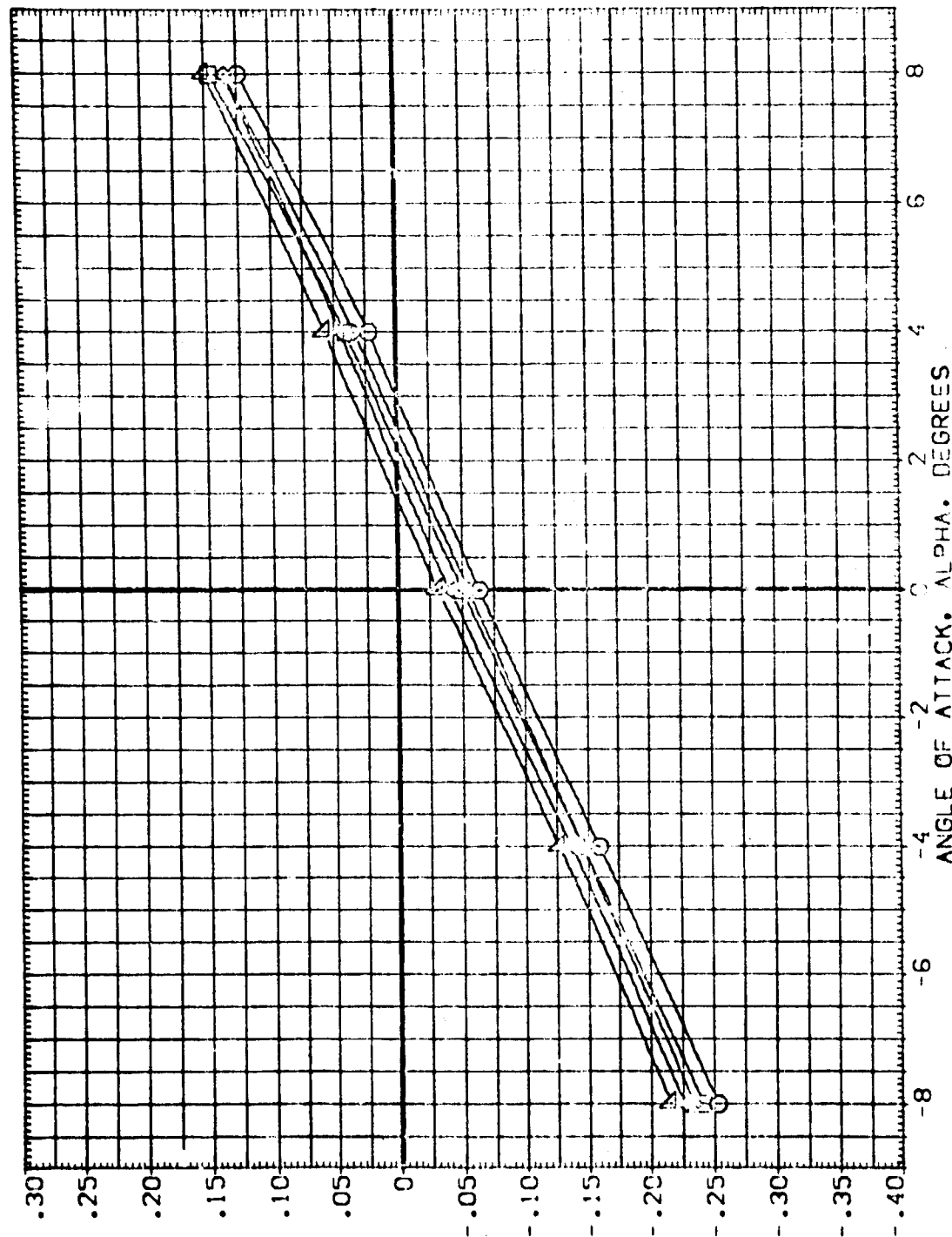


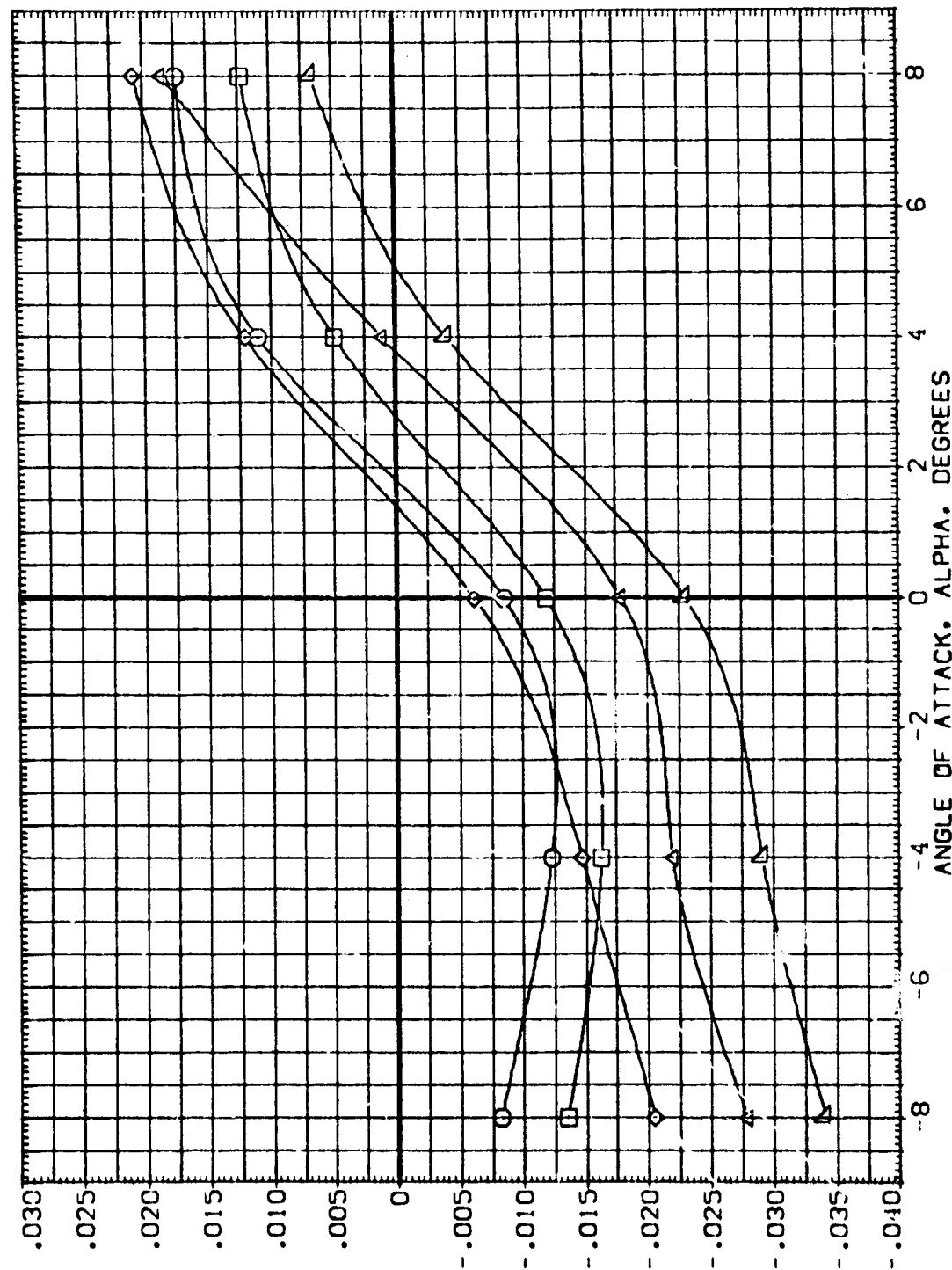
FIG. 15 LV (01 T12 S12 N25) , MACH = .6 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1141)

REFERENCE INFORMATION	
SREF	2.4210
LREF	38.7080
BREF	38.7080
XPRP	.0000
YPRP	.0000
ZPRP	9.9900
SCALE	.0300

PARAMETRIC VALUES	
BETA	.597
MACH	.000
ELEVON	.000
SPDRK	.000
RUDER	.000
FLAPER	.000
FLAPER	.000
FLAPER	.000

SYMBOL	
◇	1
○	2
△	3
▽	4



PITCHING MOMENT COEFFICIENT, CLM

FIG. 15 LV (01 T12 S12 N25) • MACH = .6 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+112+S12N25 (TANK+SRM) (1B1141)

SYMBOL
 ○ □ ◇ △
 REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7080
 BREF 38.7050
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000
 MACH
 .597
 .000
 .000
 .000
 .000
 ELEVON
 .000
 .000
 .000
 .000
 .000
 SPOBRK

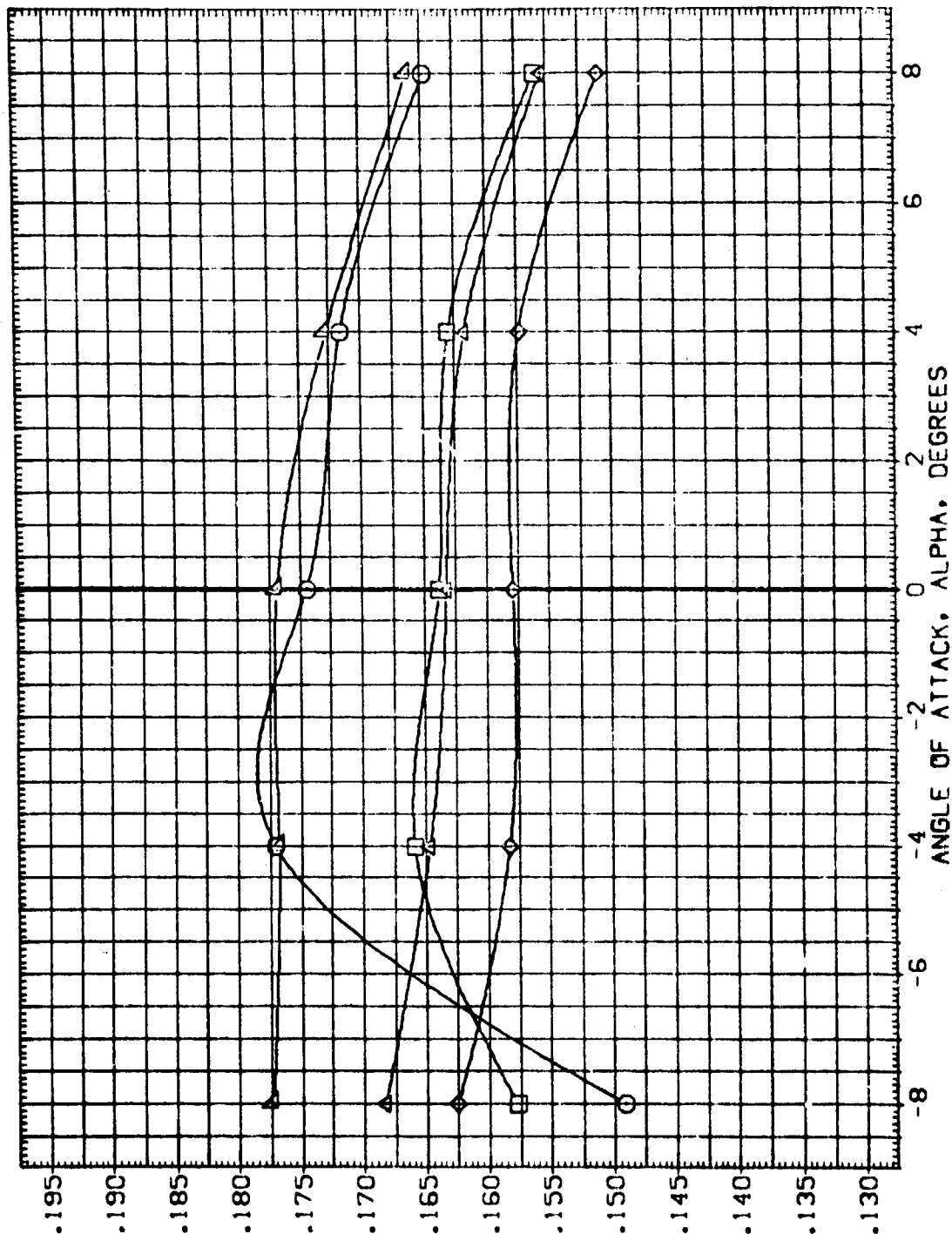


FIG. 15 LV (01 112 S12 N25) • MACH = .6 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+112+S12N25 (TANK+SRM) (IB1141)

REFERENCE INFORMATION
 SREF 2.4210 50.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XPRP .0000 IN.
 YPRP .0000 IN.
 ZPRP 9.5500 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000
 MACH .597
 ELEVON .000
 RUDDER .000
 SPOBRK .000
 .000
 4.000
 8.000

SYMBOL
 □ ◇ △ ▽

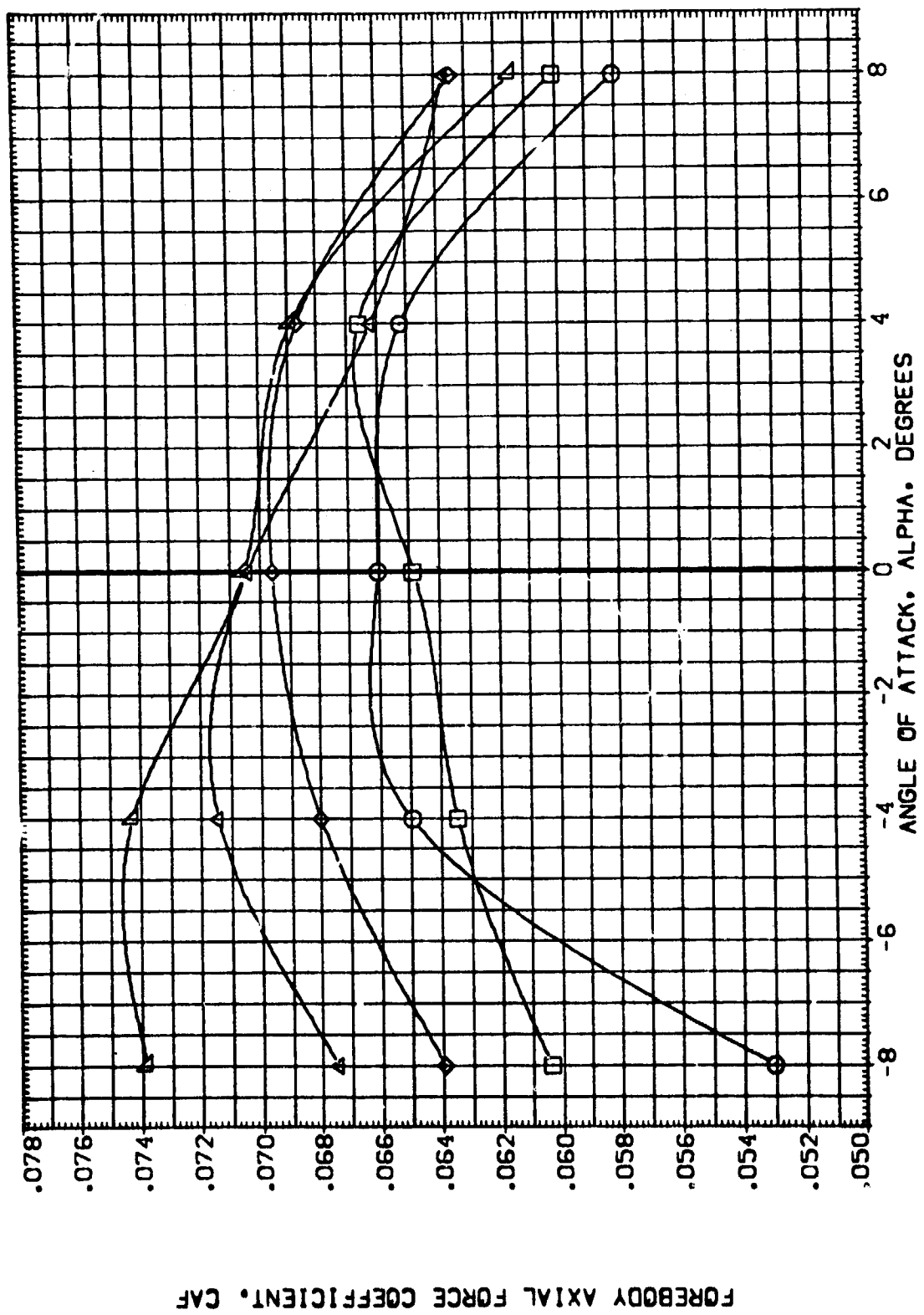


FIG. 15 LV (01 T12 S12 N25) • MACH = .6 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+112+S12N25 (TANK+SRM) (1B1141)

SYMBOL	BETA	MACH	PARAMETRIC VALUES	REFERENCE INFORMATION
○	-8.000		.597 ELEVON	SREF 2.4210
□	-4.000	FLUDER	.000 SPDRK	LREF 38.7090
◇	.000			BREF 38.7090
△	4.000			X-REF .0000
	8.000			Y-REF .0000
				Z-REF 9.5900
				SCALE .0300

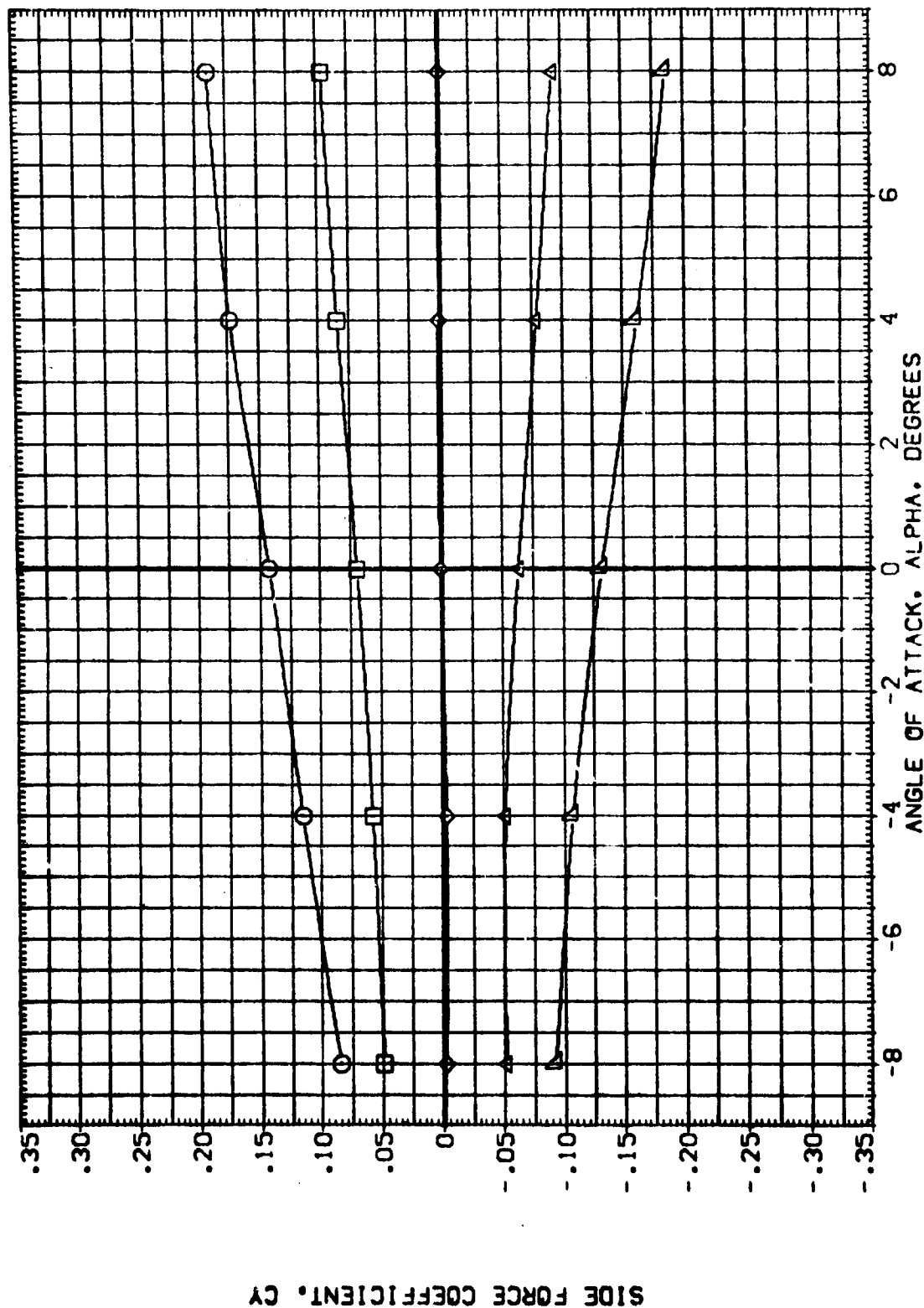


FIG. 15 LV (01 T12 S12 N25) • MACH = .6 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1141)

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000
 MACH .597
 RUDDER .000
 ELEVON .000
 SPOBRK .000

SYMBOL
 □ ◇ △ ▽

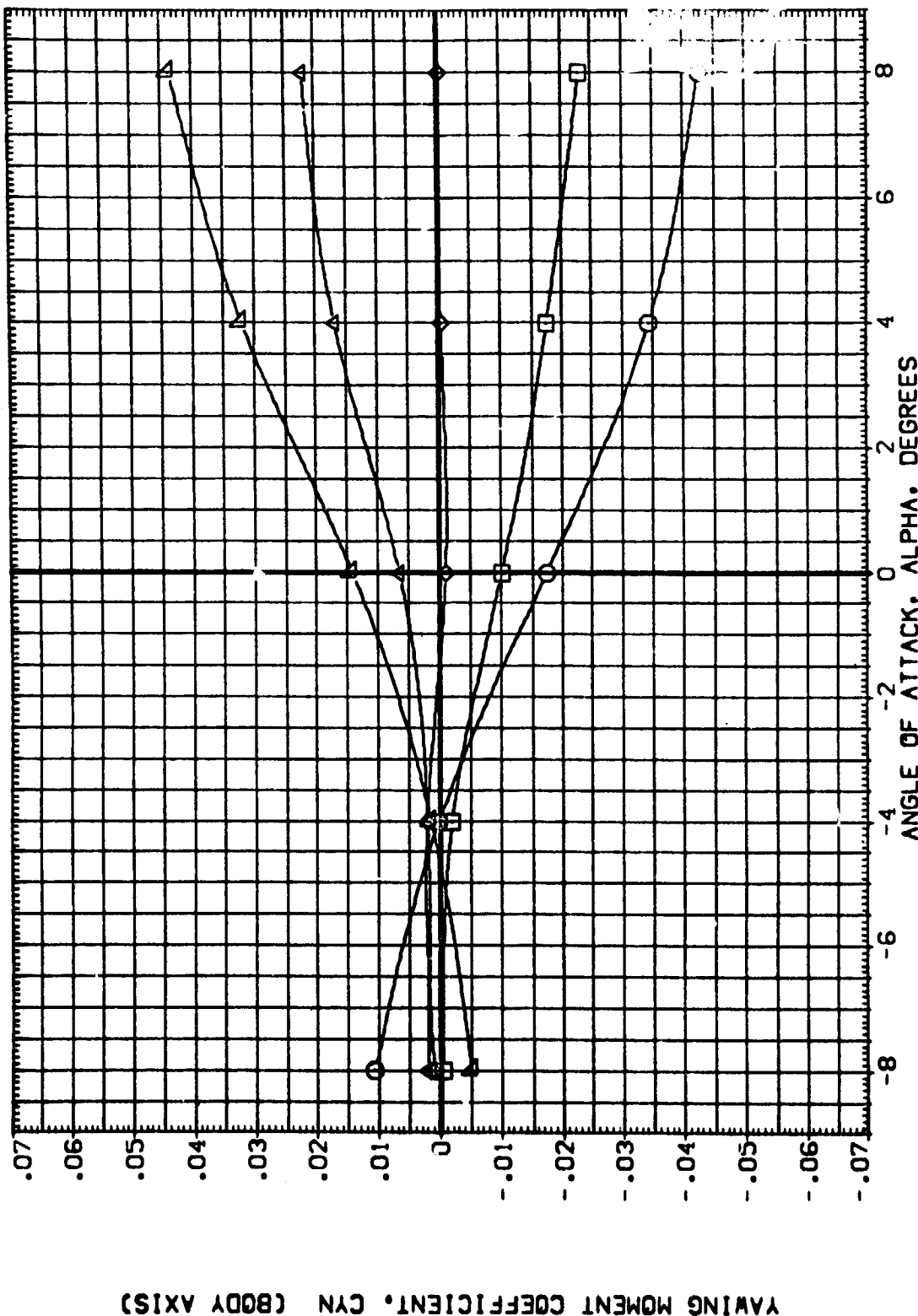


FIG. 15 LV (01 T12 S12 N25) • MACH = .6 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1141)

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7080
 BREF 38.7080
 XRRP .0000
 YRRP .0000
 ZRRP 9.5900
 SCALE .0300

PARAMETRIC VALUES
 MACH .597
 ELEVON .000
 RUDDER .000
 SPOBRK .000

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

SYMBOL
 ○ □ ◇ △

ROLLING MOMENT COEFFICIENT, CRL (BODY AXIS)

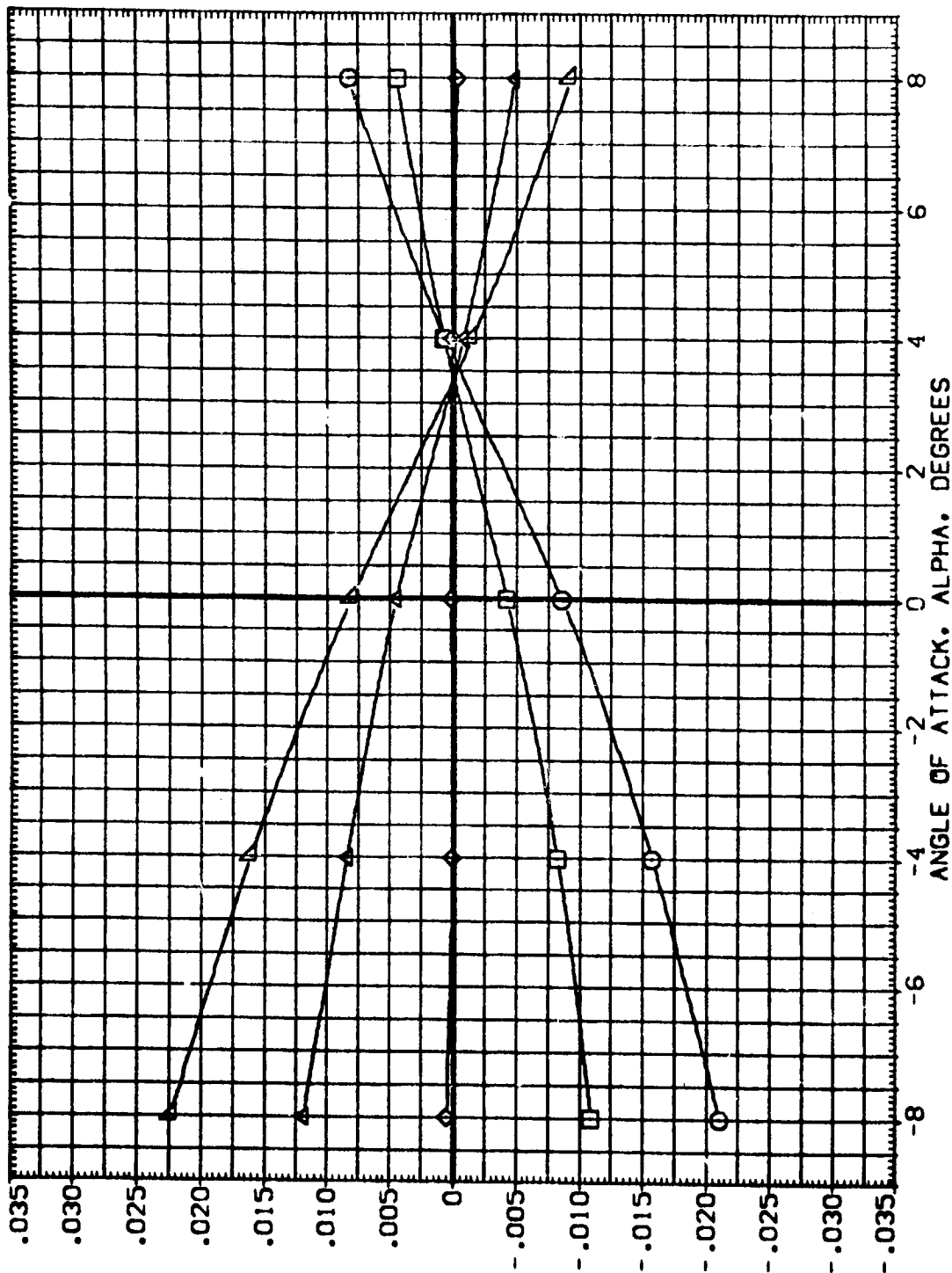


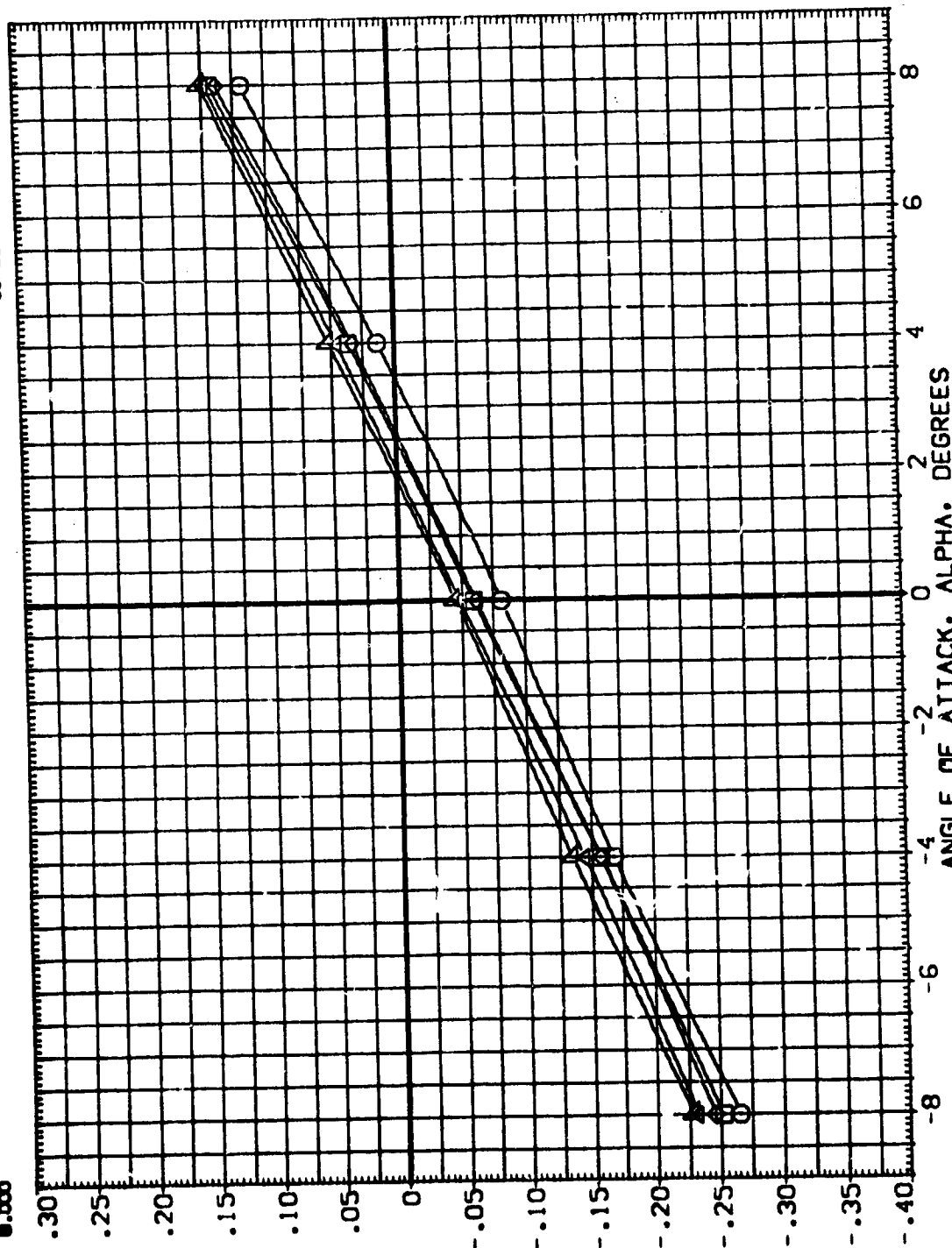
FIG. 15 LV (01 T12 S12 N25) , MACH = .6 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1142)

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.5900 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000
 MACH .750
 RUDDER .000
 ELEVON .000
 SPDRK .000
 4.000
 4.000
 8.000

SYMBOL
 ○ □ ◇ △ ▽



(TANK + SRM BALANCE)

FIG. 16 LV (01 T12 S12 N25) , MACH = .75

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1142)

SYMBOL
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .750
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

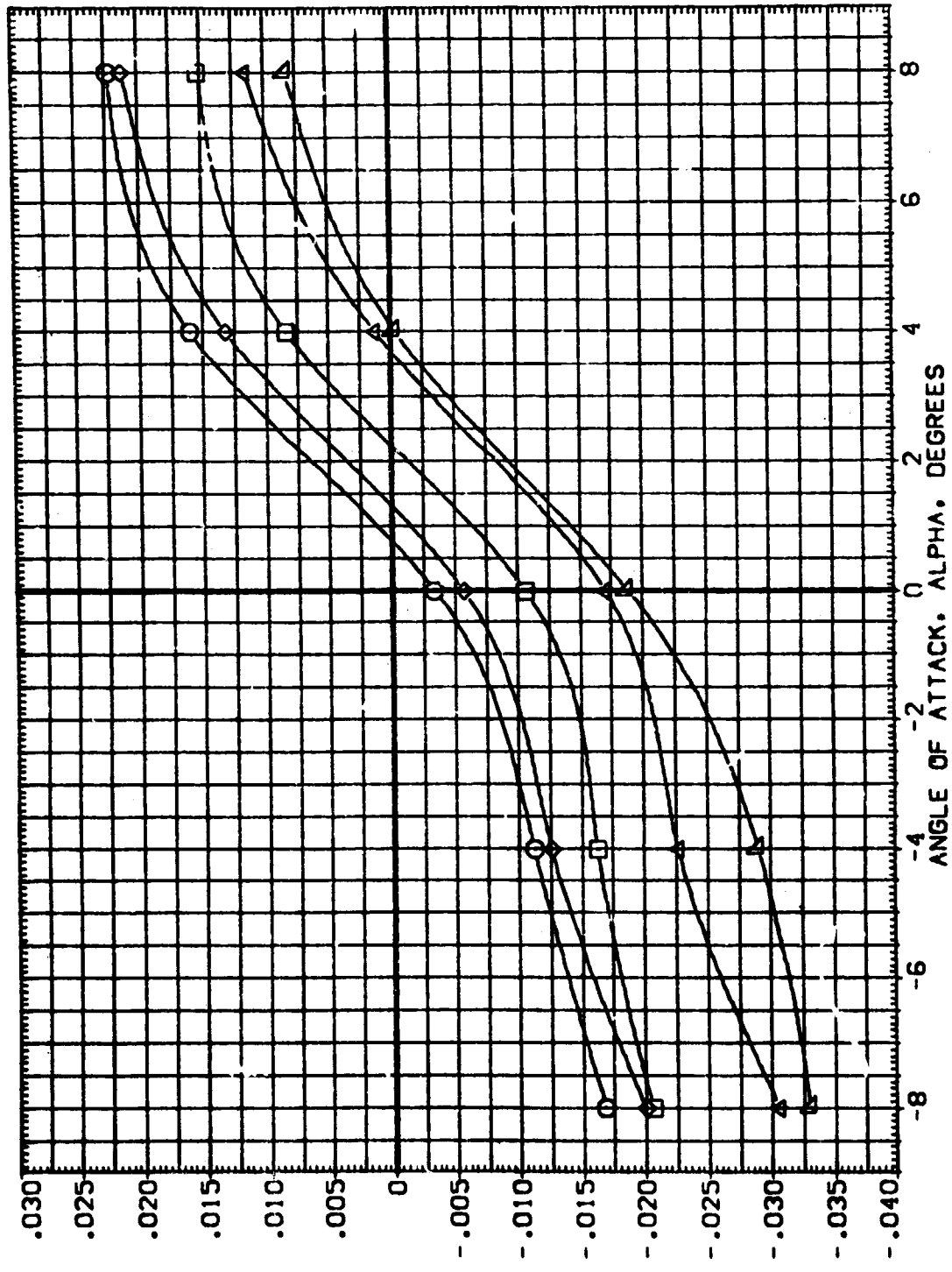


FIG. 16 LV (01 T12 S12 N25) • MACH = .75 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1142)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .750
 .000
 .000
 .000
 .000

ELEVON
 SPDRK

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

SQ.FT.
 IN.
 IN.
 IN.
 IN.

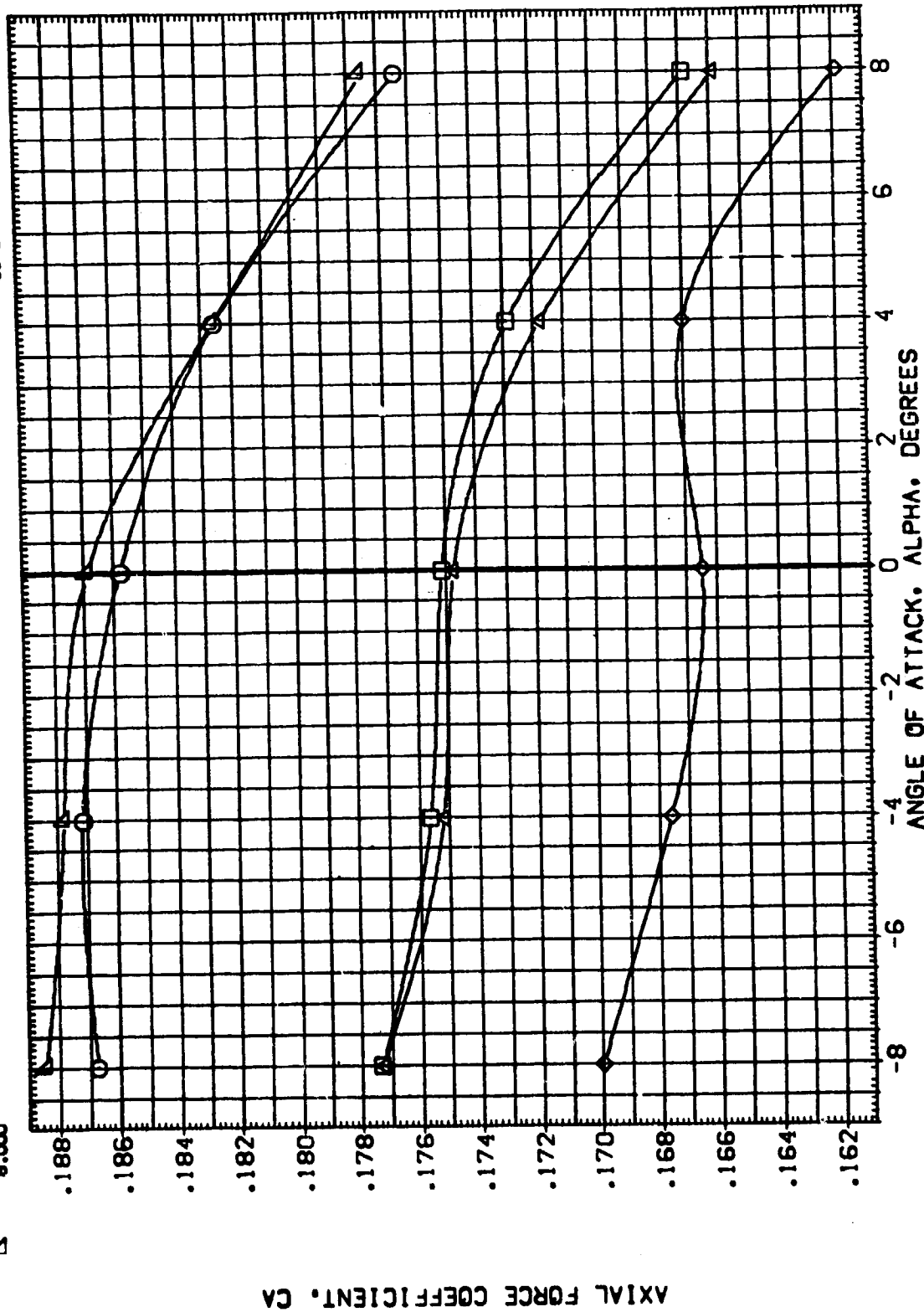


FIG. 16 LV (01 T12 S12 N25) , MACH = .75 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1142)

SYMBOL
▽
◇
□
○

BETA
-8.000
-4.000
.000
4.000
8.000

MACH
RUDDER

PARAMETRIC VALUES
.750
.000
ELEVON
SPDRK
.000
.000

REFERENCE INFORMATION
SREF 2.4210
LREF 38.7090
BREF 38.7090
XMRP .0000
YMRP .0000
ZMRP 9.9500
SCALE .0300

SO.FT.
IN.
IN.
IN.
IN.
IN.

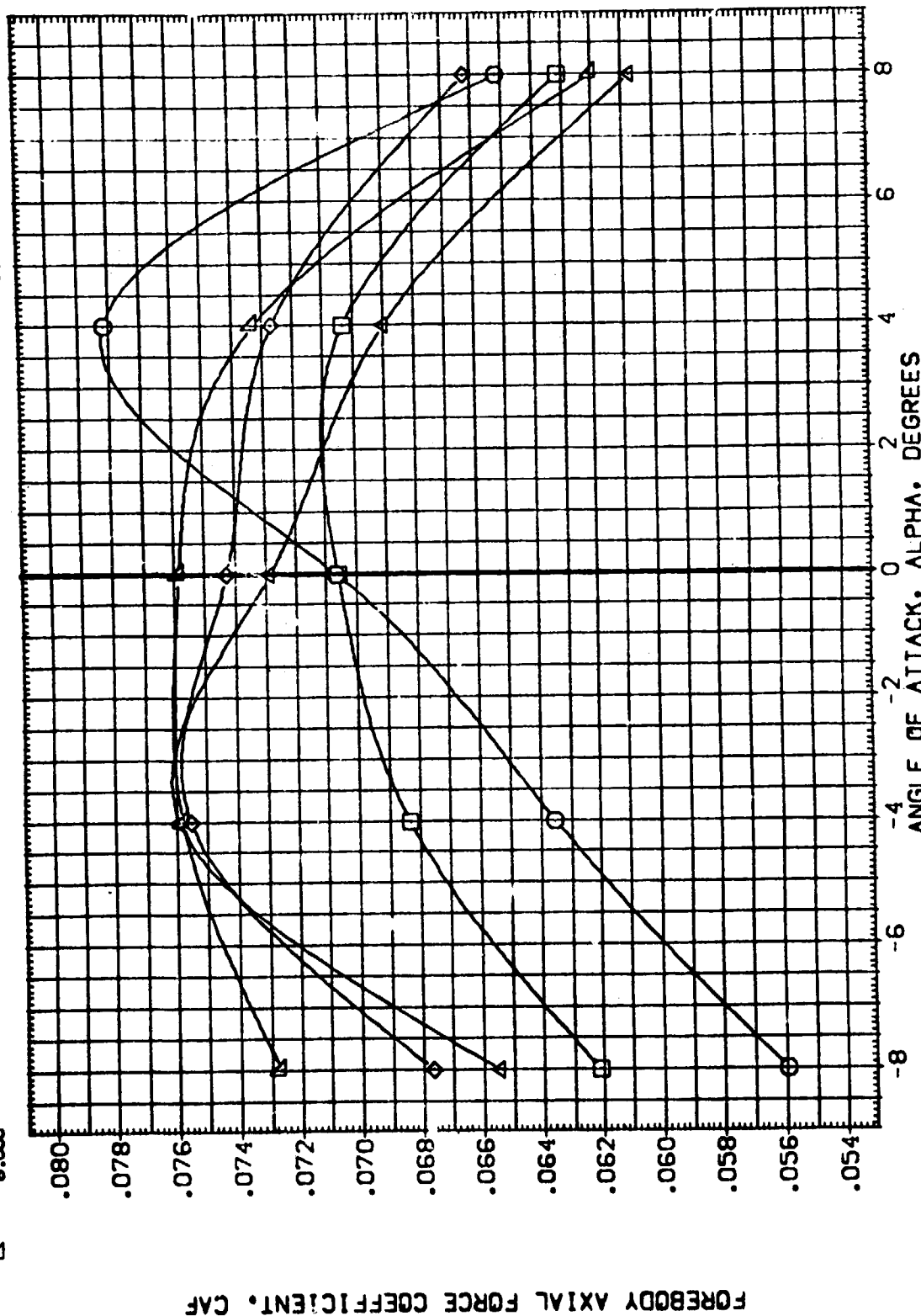


FIG. 16 LV (01 T12 S12 N25) , MACH = .75 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25

(TANK+SRM) (IB1142)

SYMBOL
○ □ ◇ △

BETA
-8.000
-4.000
.000
4.000
8.000

PARAMETRIC VALUES
MACH .750
RUDDER .000
ELEVON .000
SPDRK .000

REFERENCE INFORMATION
SREF 2.4210 SQ.FT.
LREF 38.7090 IN.
BREF 38.7090 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9900 IN.
SCALE .0300

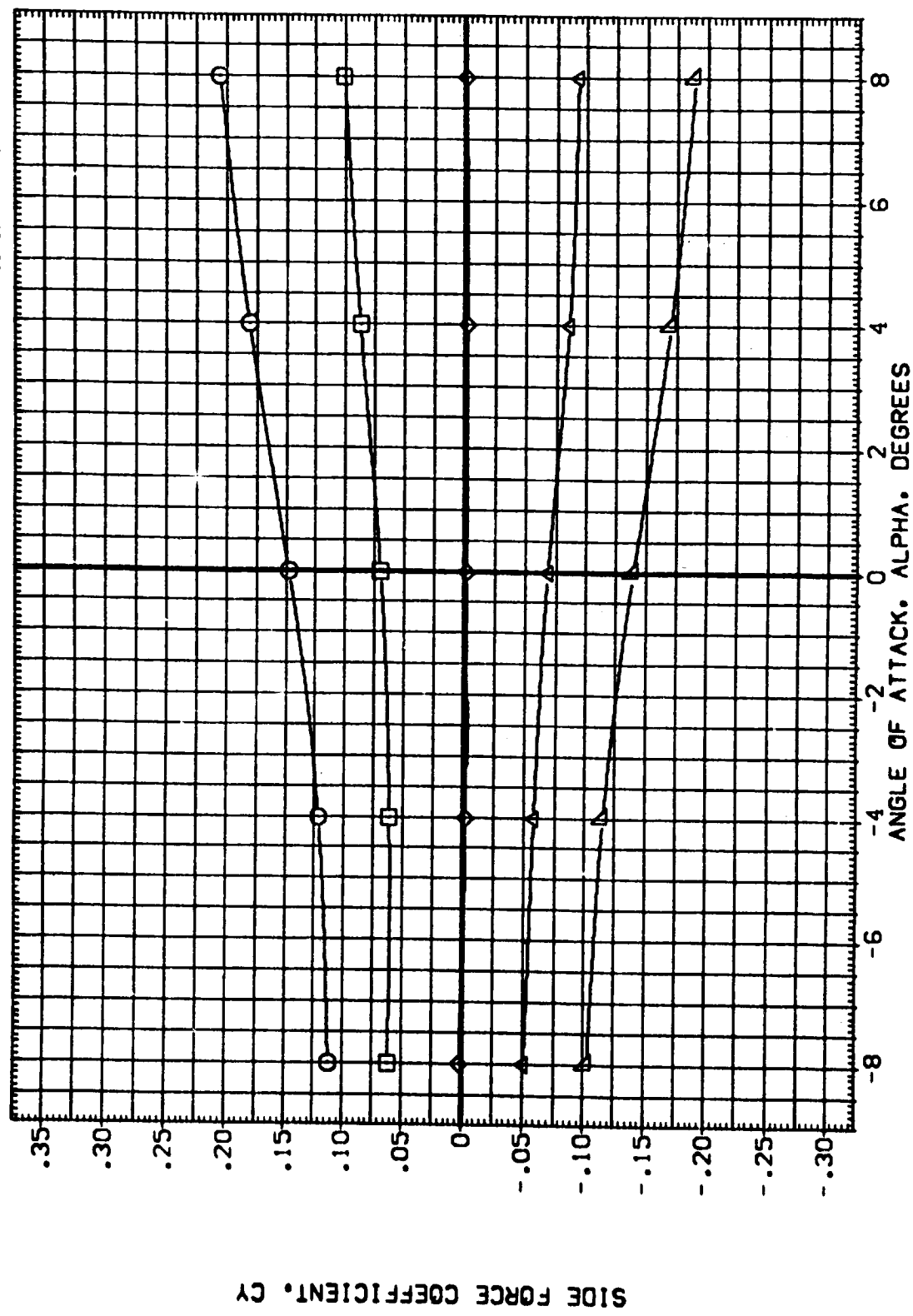


FIG. 16 LV (01 T12 S12 N25) • MACH = .75 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1142)

SYMBOL
○ □ ◇ △ ▽

BETA
-8.000
-4.000
.000
4.000
8.000

PARAMETRIC VALUES
MACH .750
ELEVON .000
SPDRX .000

.000
.000

REFERENCE INFORMATION
SREF 2.4210 50.FT.
LREF 38.7050 IN.
BREF 38.7050 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9900 IN.
SCALE .0300

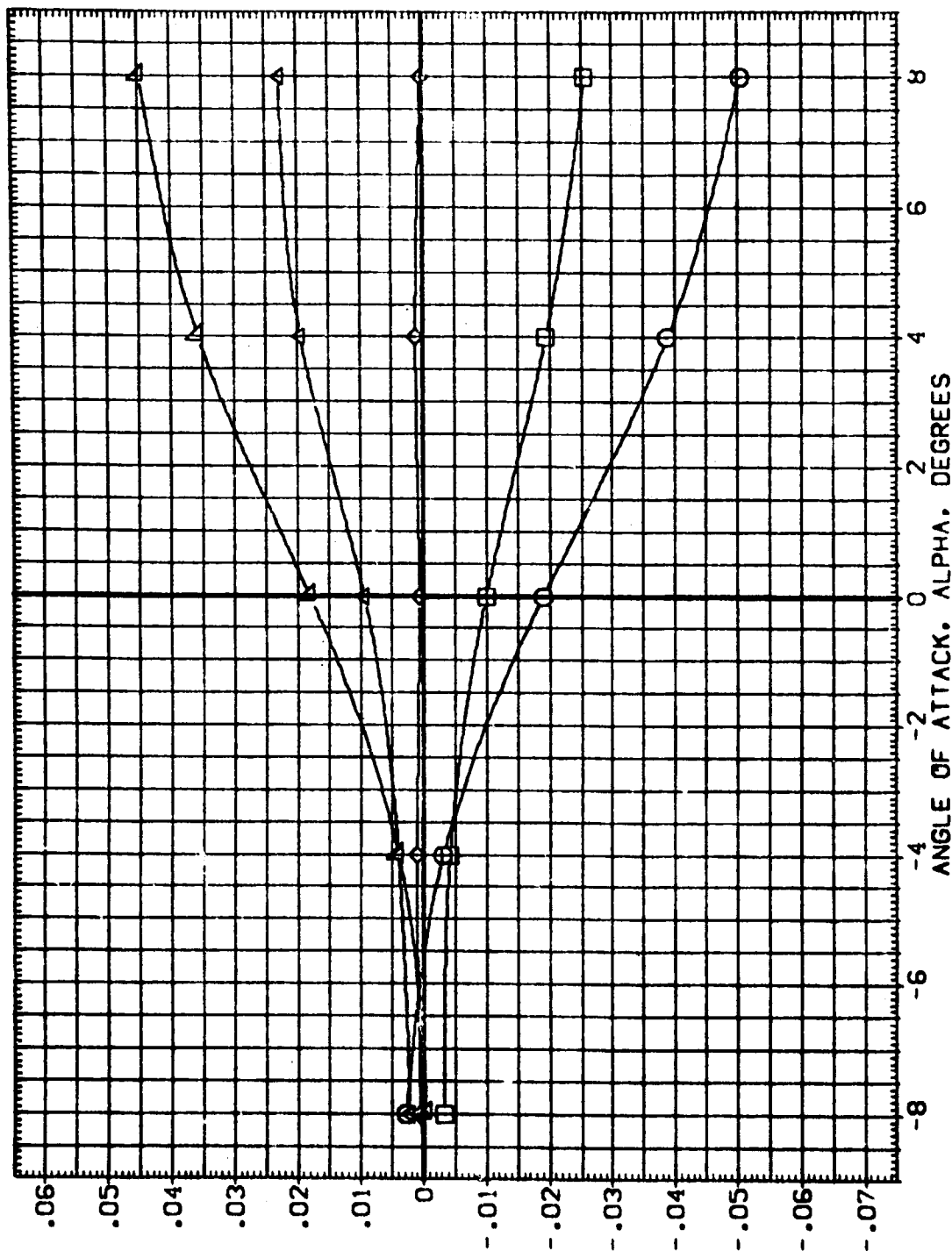


FIG. 16 LV (01 T12 S12 N25) , MACH = .75 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1142)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .750
 RUDDER .000
 ELEVON .000
 SPDRK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7050
 BREF 38.7050
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

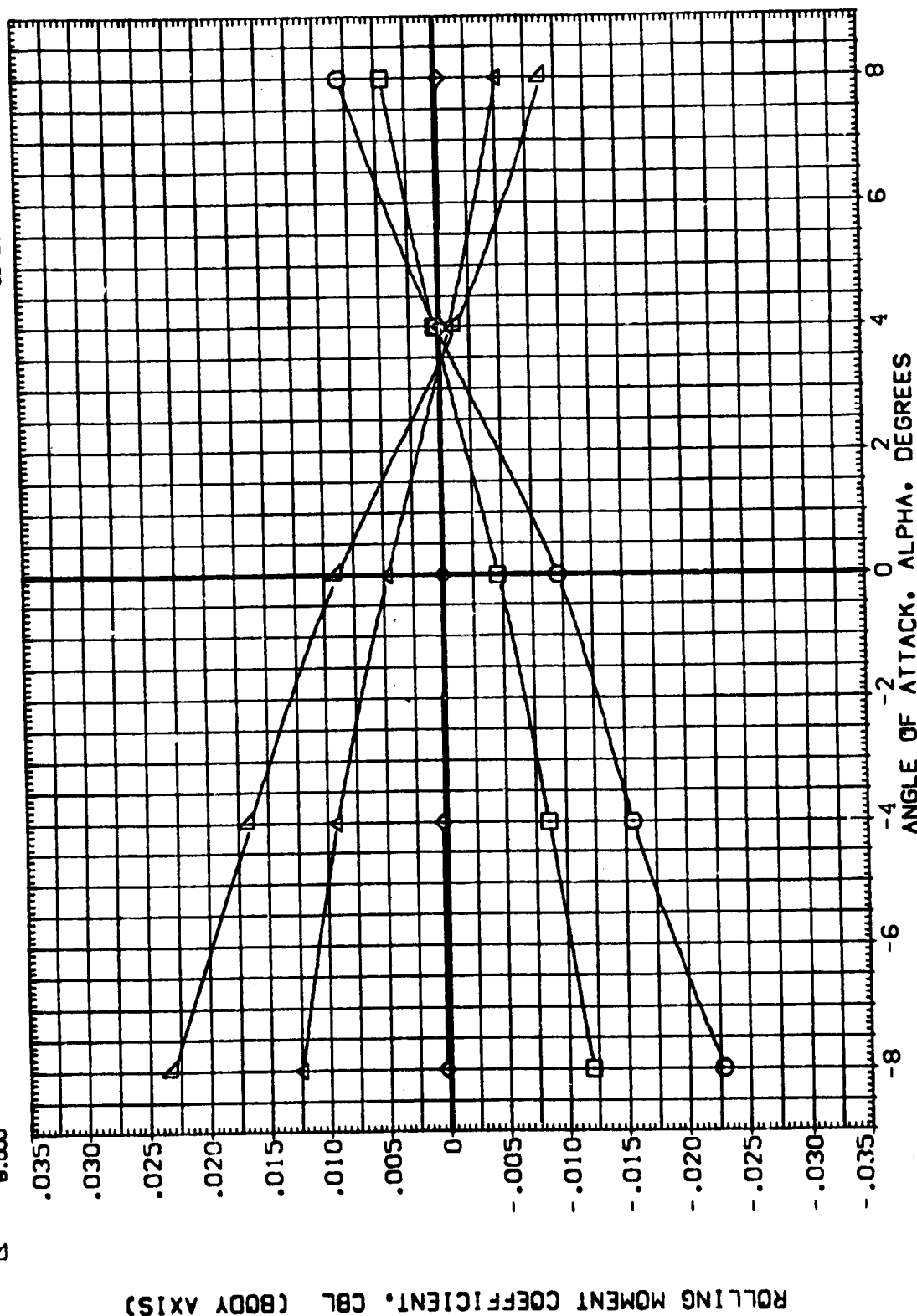


FIG. 16 LV (01 T12 S12 N25) • MACH = .75 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1143)

SYMBOL	BETA	MACH	PARAMETRIC VALUES	REFERENCE INFORMATION
▽	-8.000		.003	SREF 2.4210
◇	-4.000	RUDDER	.000	LREF 38.7090
□	.000		.000	BREF 38.7090
△	8.000		.000	XTRP .0000
			.0000	YTRP .0000
			.0000	ZTRP 9.9500
			.0000	SCALE .0300

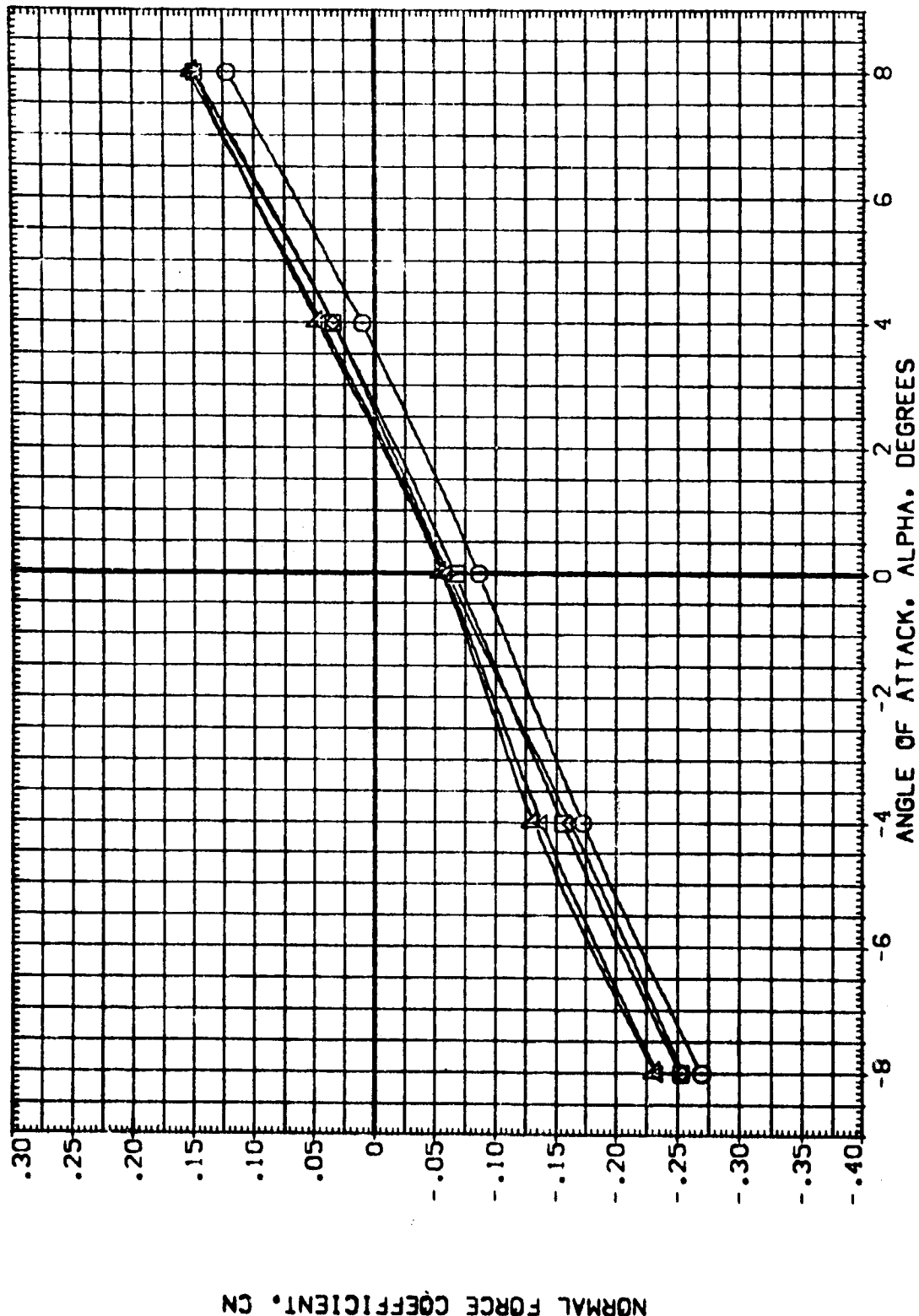


FIG. 17 LV (01 T12 S12 N25) • MACH = .85 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1143)

SYMBOL
 REF. 2.1210
 LREF 38.7090
 BREF 38.7090
 XREF .0000
 YREF .0000
 ZREF 9.5900
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000
 MACH .853
 RUDDER .000
 ELEVON .000
 SPOBRK .000

REF. 2.1210
 LREF 38.7090
 BREF 38.7090
 XREF .0000
 YREF .0000
 ZREF 9.5900
 SCALE .0300

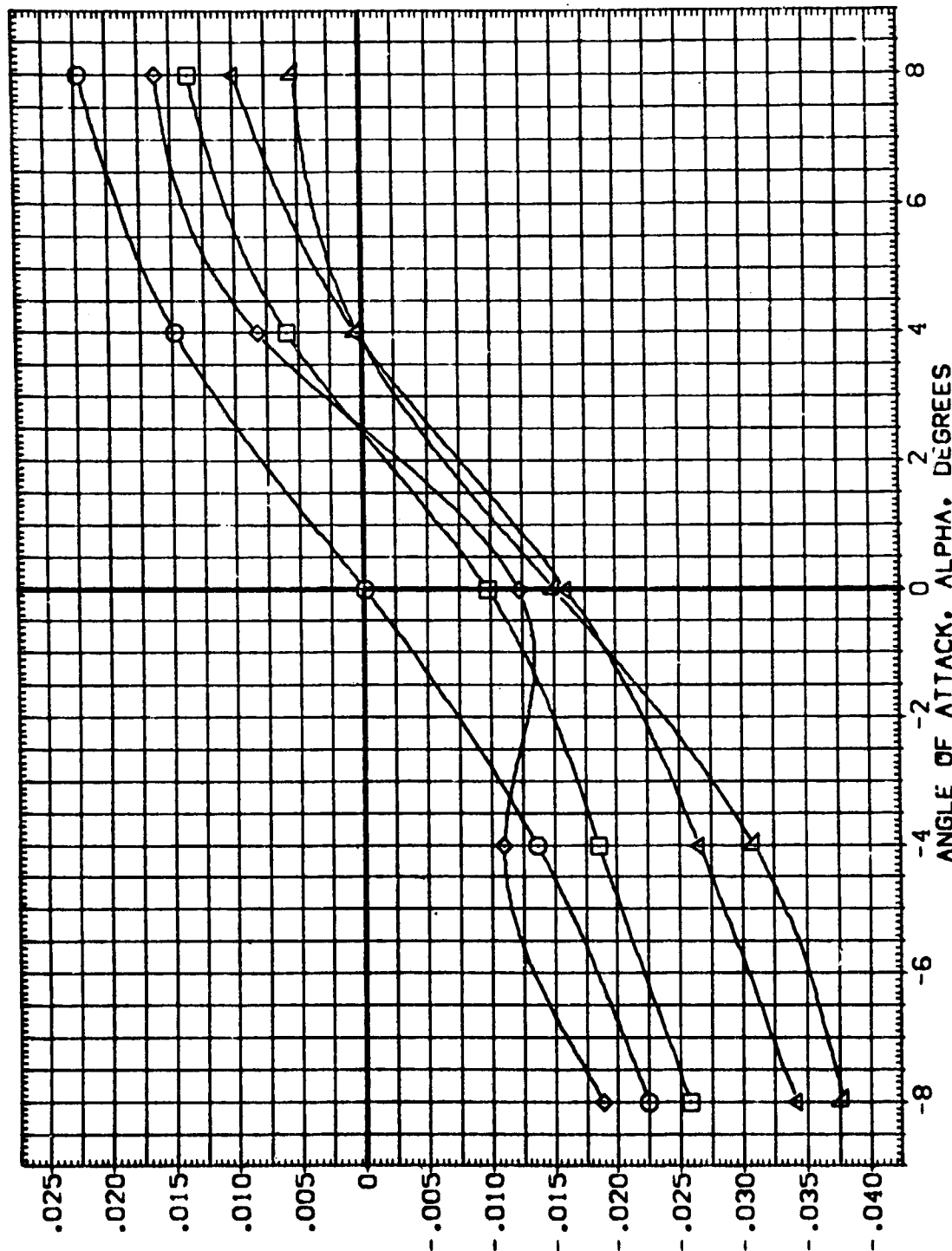


FIG. 17 LV (01 T12 S12 N25) , MACH = .85 (TANK + SRM BALANCE)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .853
 ELEVON .000
 SPOON .000

MACH .000
 RUDDER .000

REFERENCE INFORMATION
 SQ.FT.
 IN.
 IN.
 IN.
 IN.
 IN.
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9800
 SCALE .0300

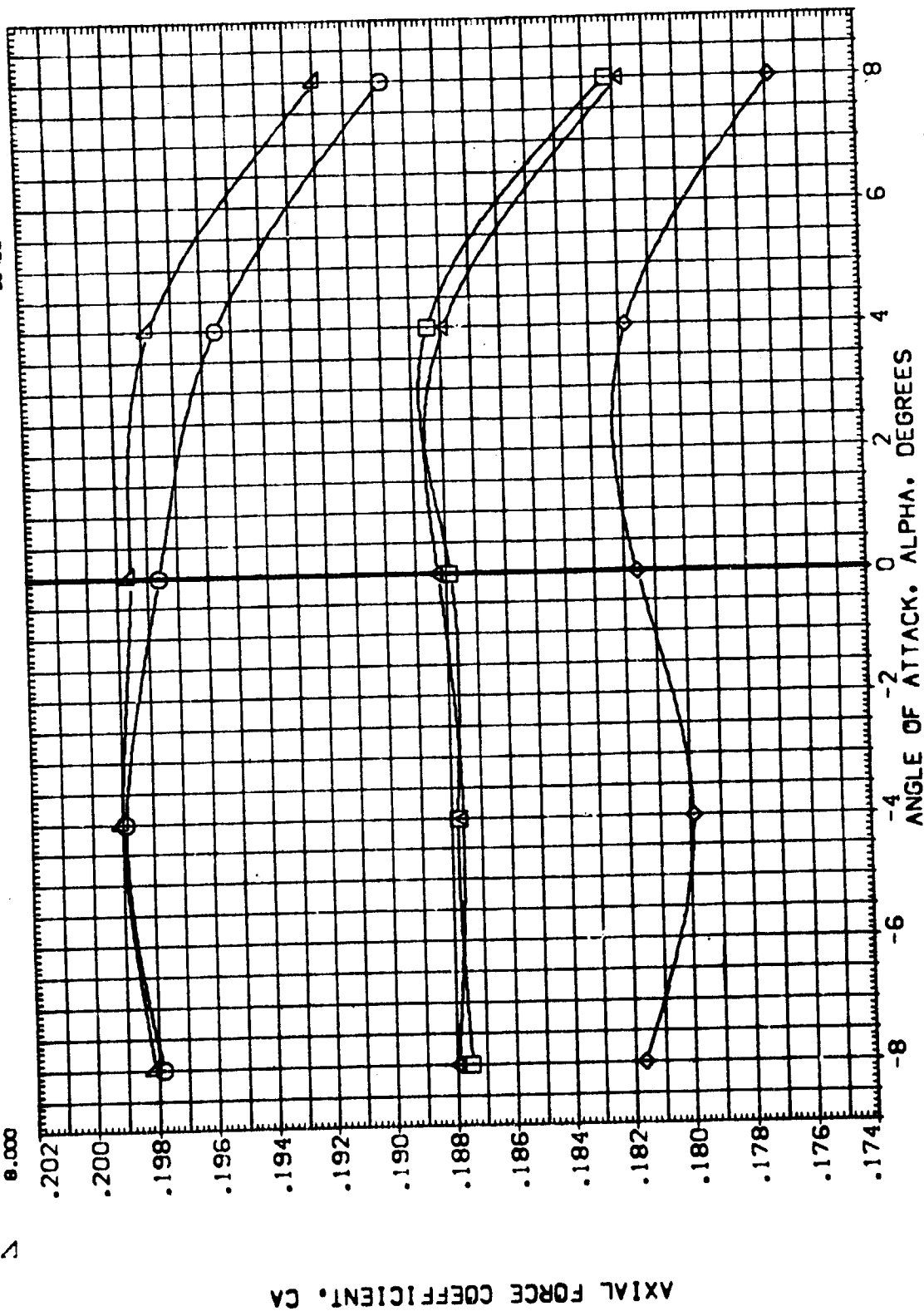


FIG. 17 LV (01 T12 S12 N25) , MACH = .85 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1143)

SYMBOL
 ○ □ ◇ △ ▽

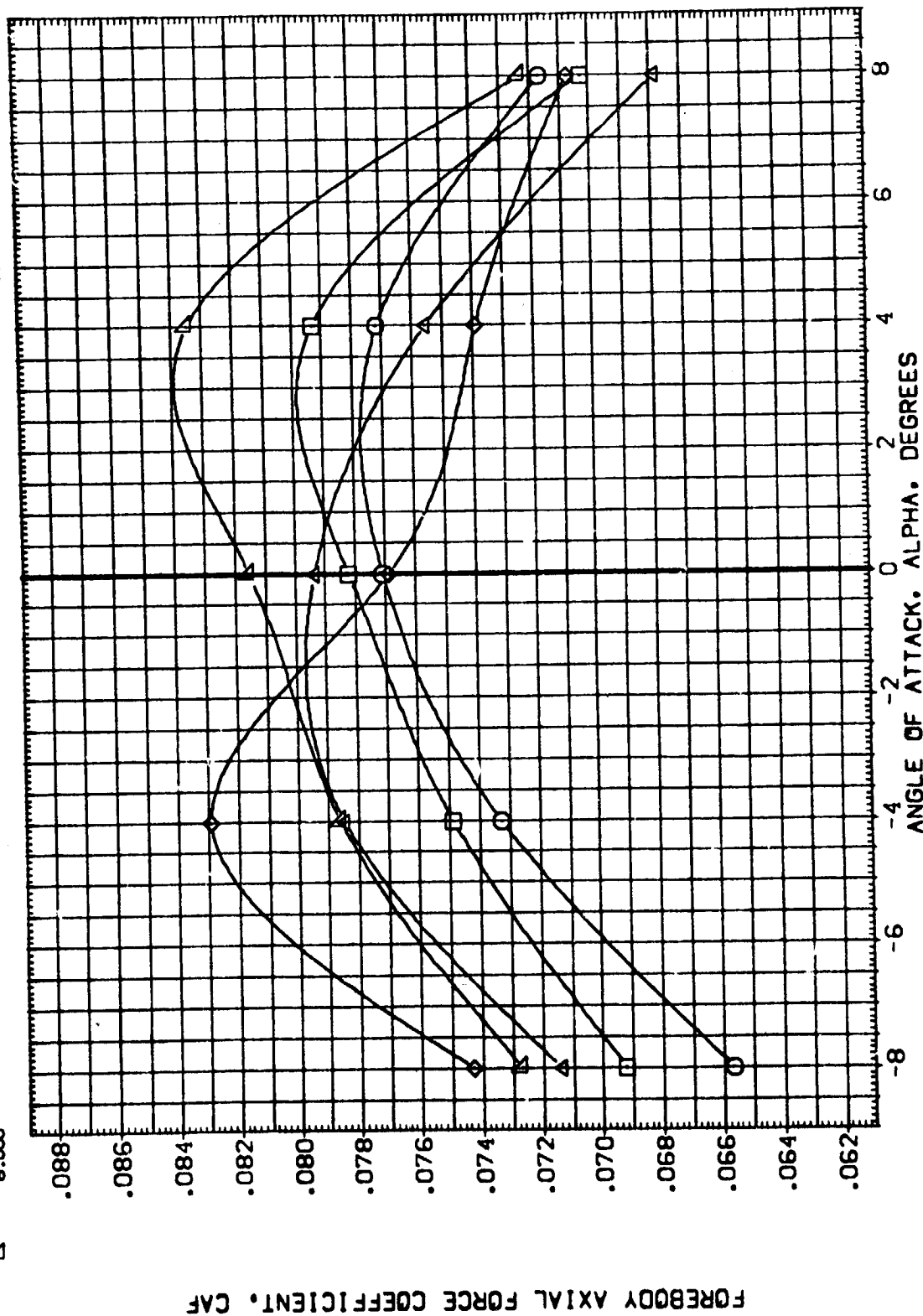
BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 .853
 .853
 .853
 .853
 .853

PARAMETRIC VALUES
 ELEVON
 .000
 .000
 .000
 .000
 .000

SPDBRK
 .000
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300



(TANK + SRM BALANCE)

FIG. 17 LV (01 T12 S12 N25) , MACH = .85

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1143)

REFERENCE INFORMATION
 SREF 2.4210 SO.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000
 MACH .853
 ELEVON .000
 RUDDER .000
 SPOBRK .000

SYMBOL
 ○ □ ◇ △

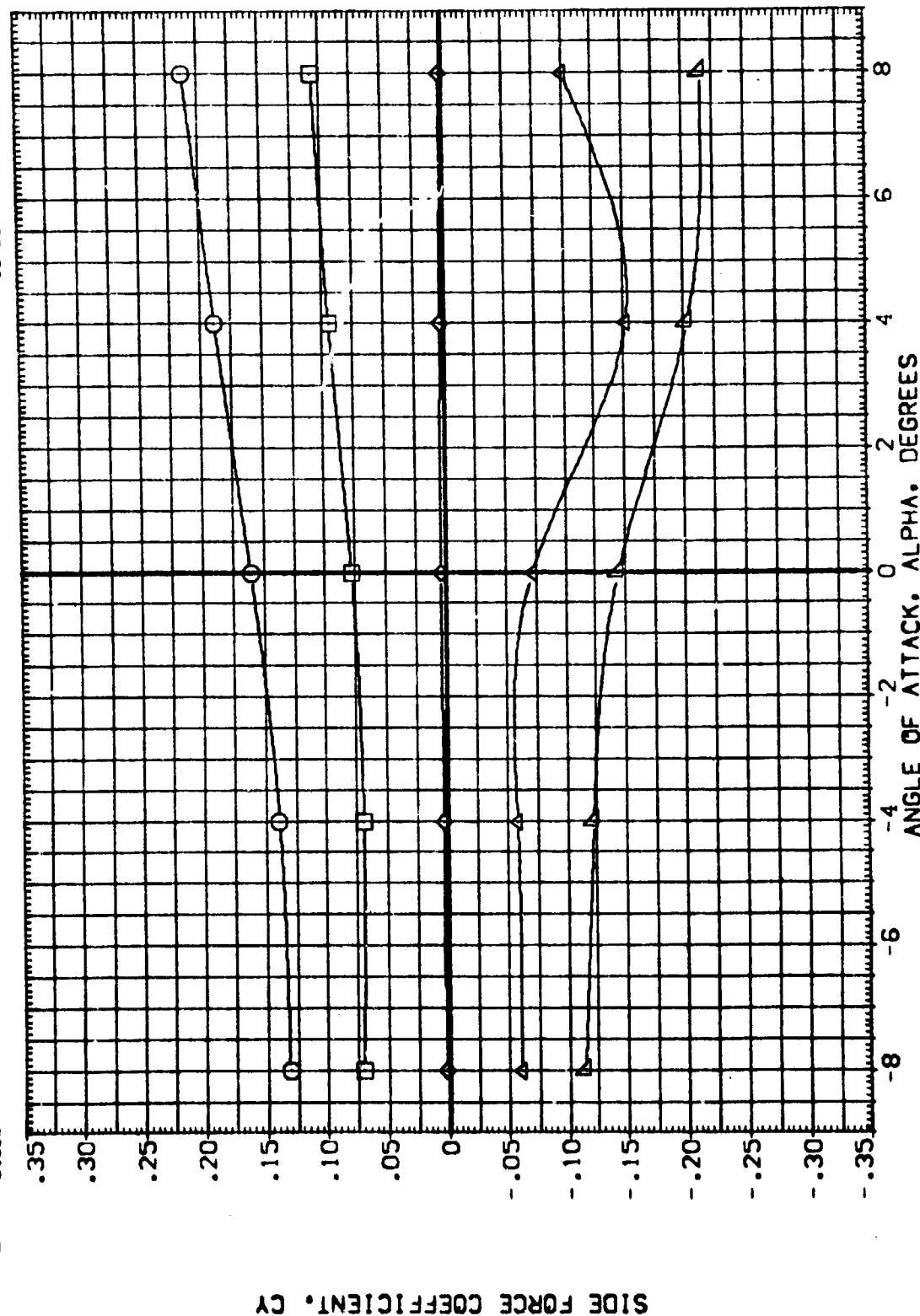


FIG. 17 LV (01 T12 S12 N25) • MACH = .85 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1143)
 REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

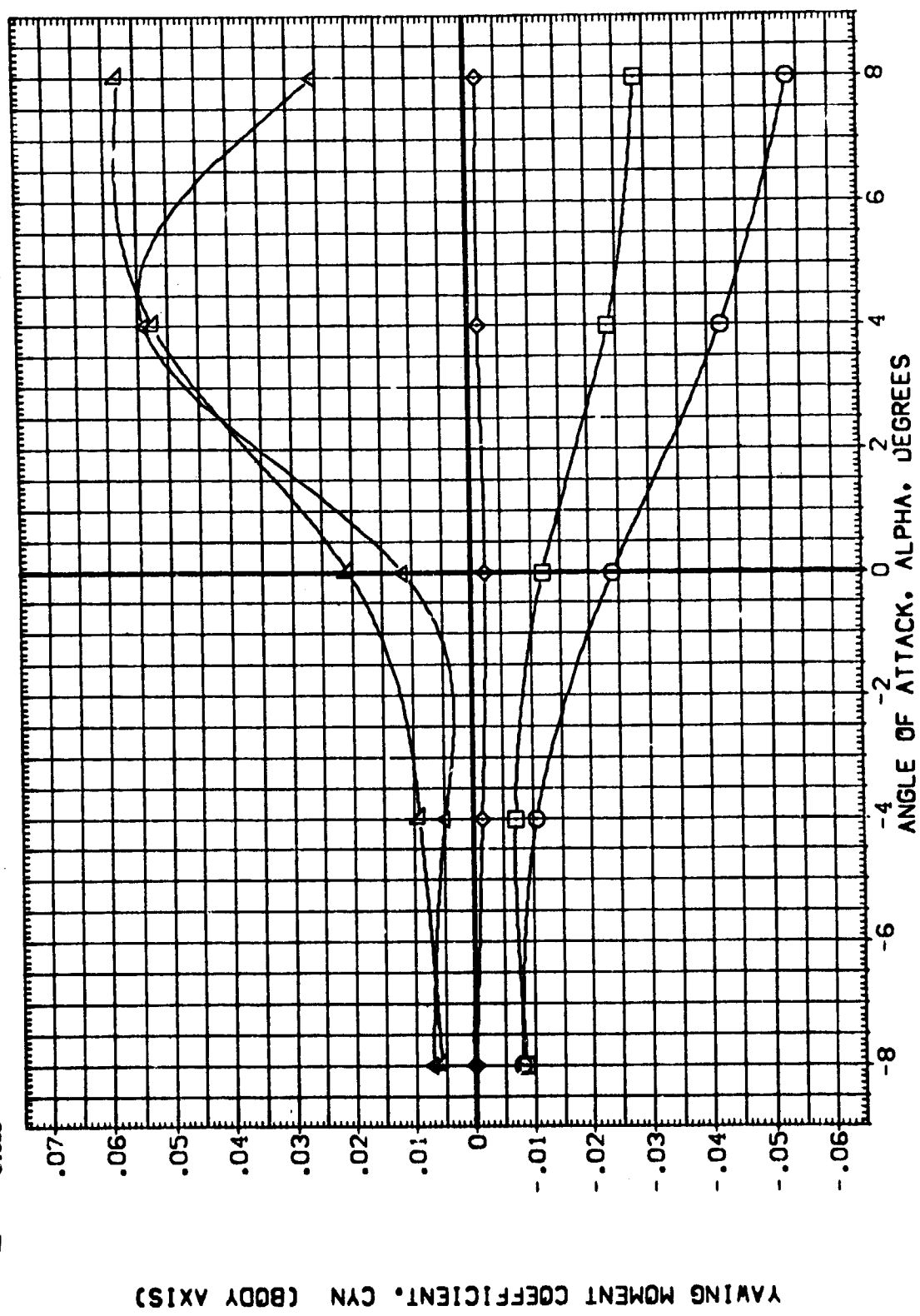


FIG. 17 LV (01 T12 S12 N25) • MACH = .85 (TANK + SRM BALANCE)
 PAGE 139

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1143)

SYMBOL
 ▽ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .853 ELEVON
 .000 SPOBRK

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7C90 IN.
 BREF 38.7C90 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9500 IN.
 SCALE .0300

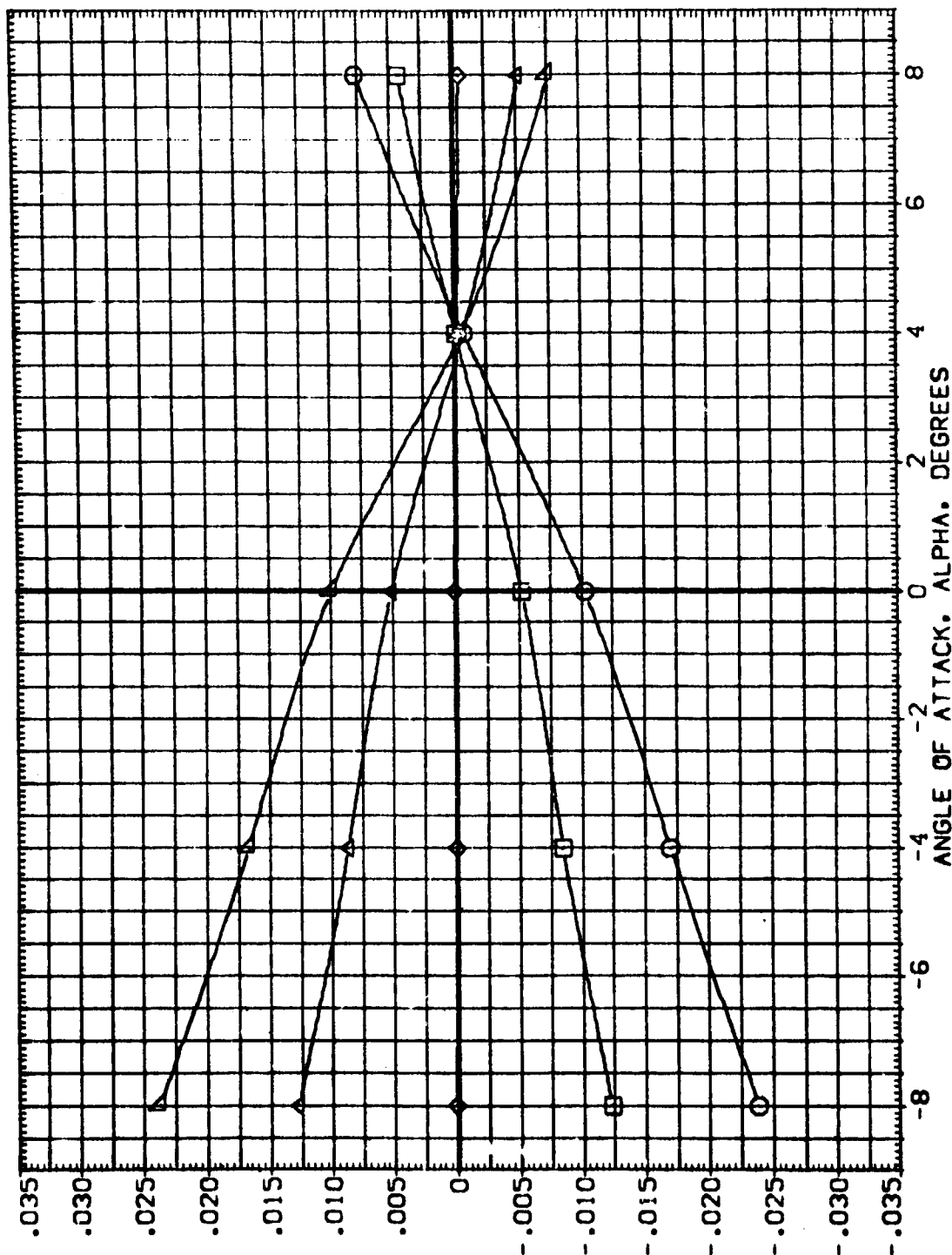


FIG. 17 LV (01 T12 S12 N25) • MACH = .85 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1144)

REFERENCE INFORMATION

SREF	2.4210	SO.FT.
LREF	38.7090	IN.
BREF	38.7090	IN.
XMRP	.0000	IN.
YMRP	.0000	IN.
ZMRP	9.9900	IN.
SCALE	.0300	

PARAMETRIC VALUES

BETA	MACH	ELEVON
-8.000	.900	.000
-4.000	.000	.000
.000		
4.000		
8.000		

SYMBOL

○ □ ◇ △

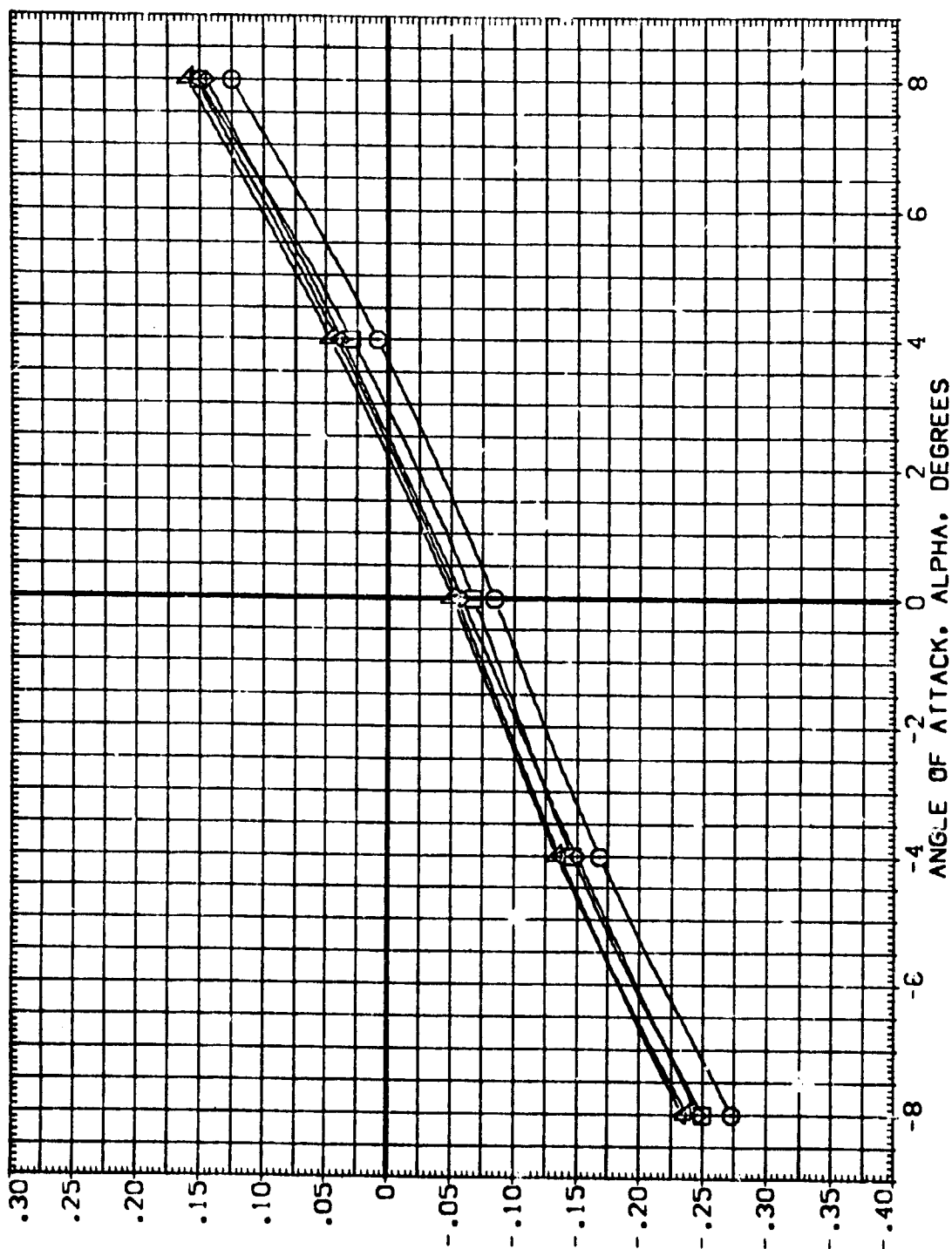


FIG. 18 LV (01 T12 S12 N25) • MACH = .90 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1144)

SYMBOL
 1
 2
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 4
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 90
 91
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 95
 96
 97
 98
 99
 100

BETA
 -8.000
 -4.000
 0.000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .900 ELEVON
 .000 SPOBRK
 .000

REFERENCE INFORMATION
 SREF 2.4210 SO.FT.
 IREF 38.7050 IN.
 XREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

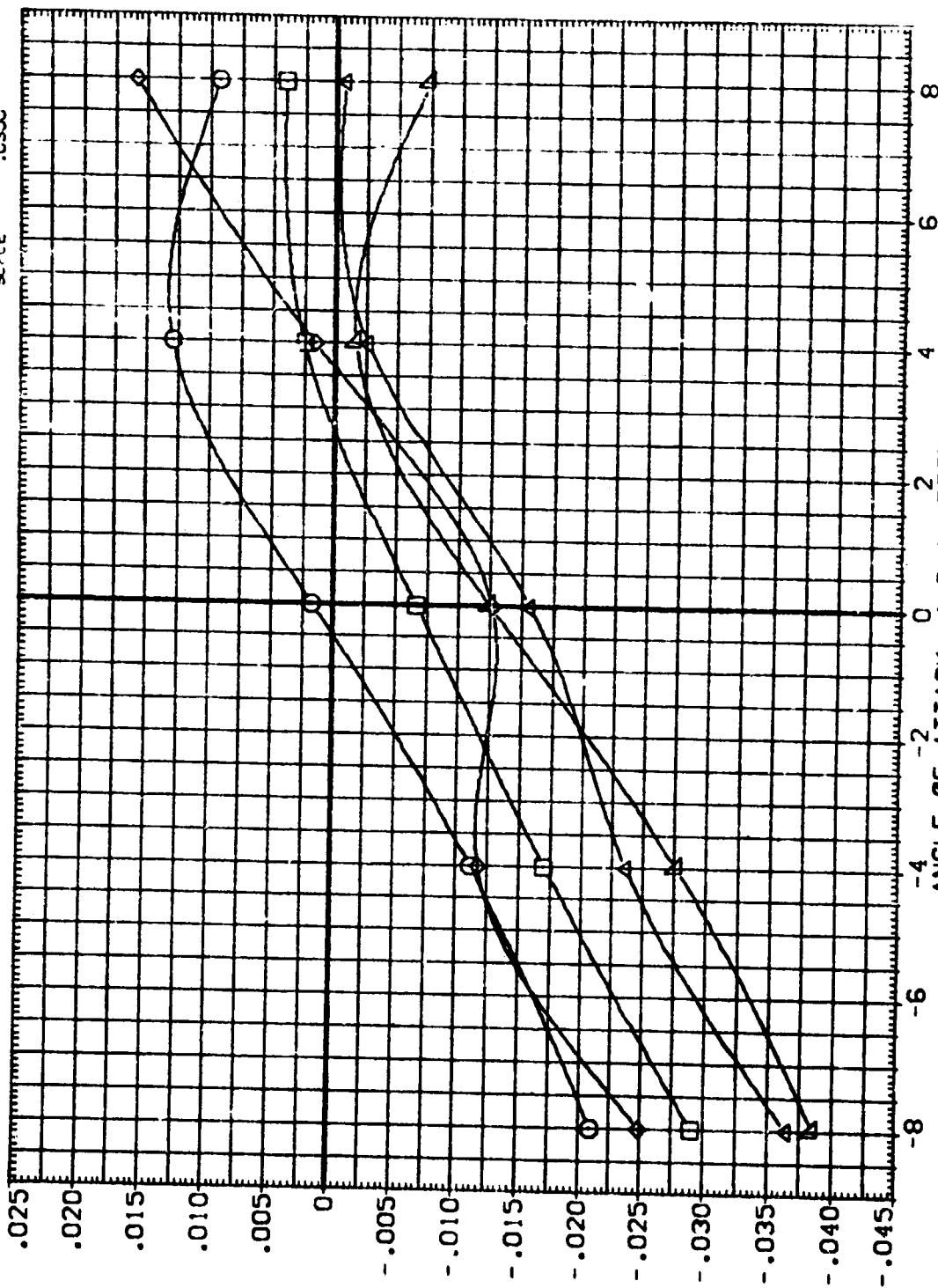


FIG. 18 LV (01 T12 S12 N25) • MACH = .90 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1144)

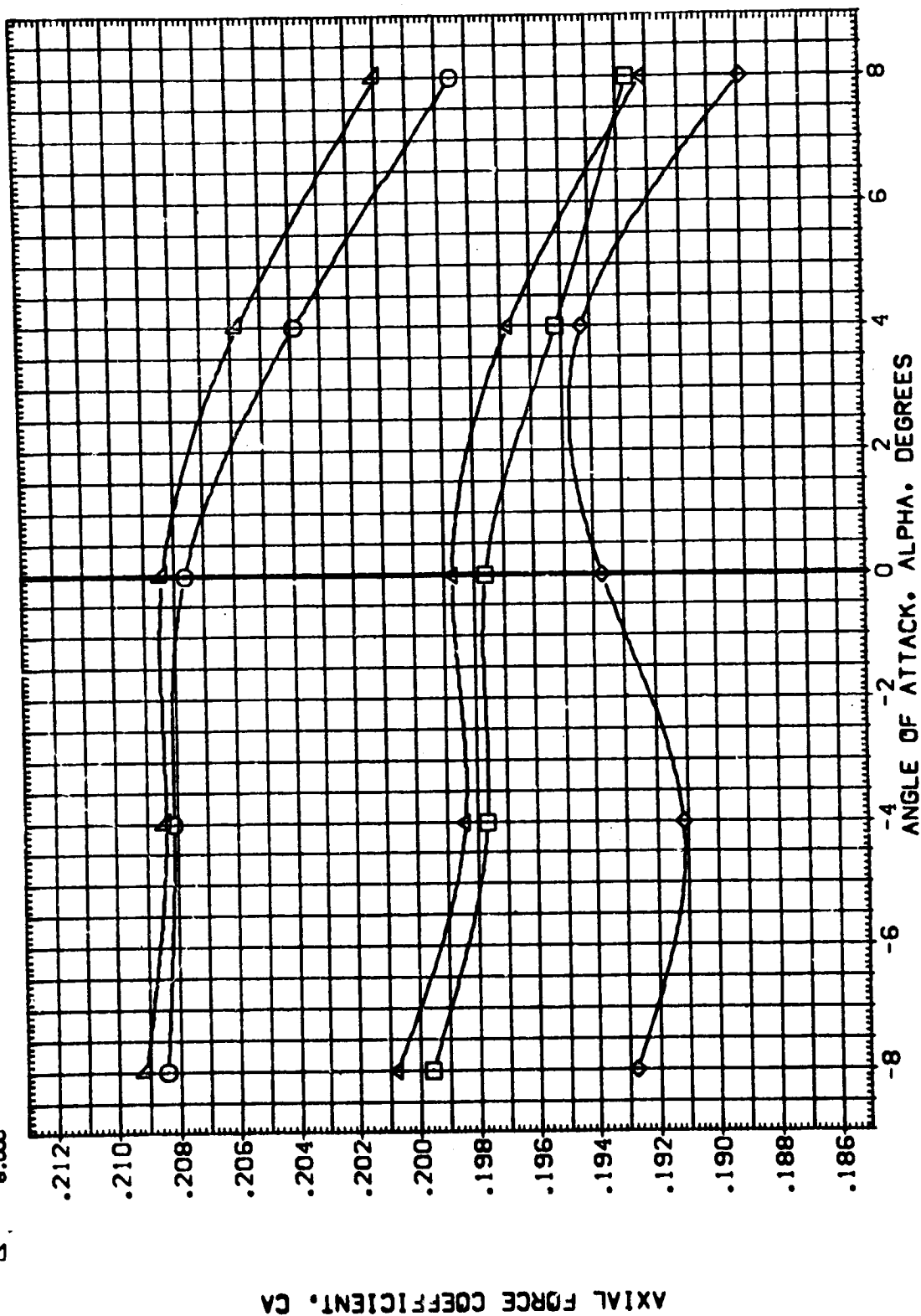
SYMBOL
 ○ □ ◇ △ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .500
 ELEVON .000
 SPOBRK .000

FLUDER .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300



(TANK + SRM BALANCE)

FIG. 18 LV (01 T12 S12 N25) • MACH = .90

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1144)

SYMBOL

□ ○ ◇ △

BETA

-8.000
-4.000
.000
4.000
8.000

MACH
FLUIDER

PARAMETRIC VALUES
.900 ELEVON
.000 SPDRM

.000
.000

REFERENCE INFORMATION
SREF 2.4210 SQ.FT.
LREF 38.7050 IN.
BREF 38.7050 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.5900 IN.
SCALE .0300

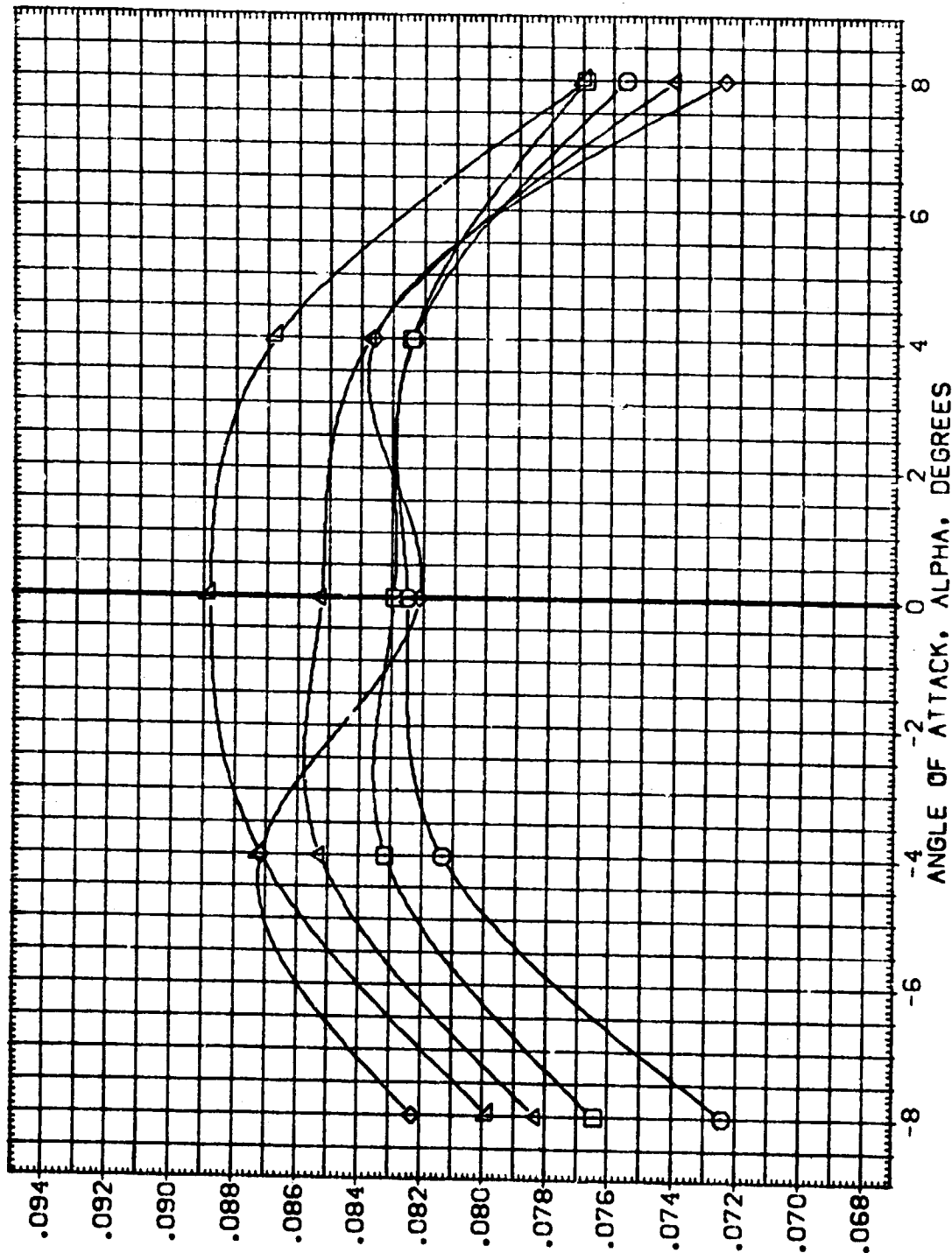


FIG. 18 LV (01 T12 S12 N25) • MACH = .90 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1144)

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9500 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000
 MACH .500
 RUDDER .000
 ELEVON .000
 SPDRK .000

SYMBOL
 ○
 □
 ◇
 △
 ▽

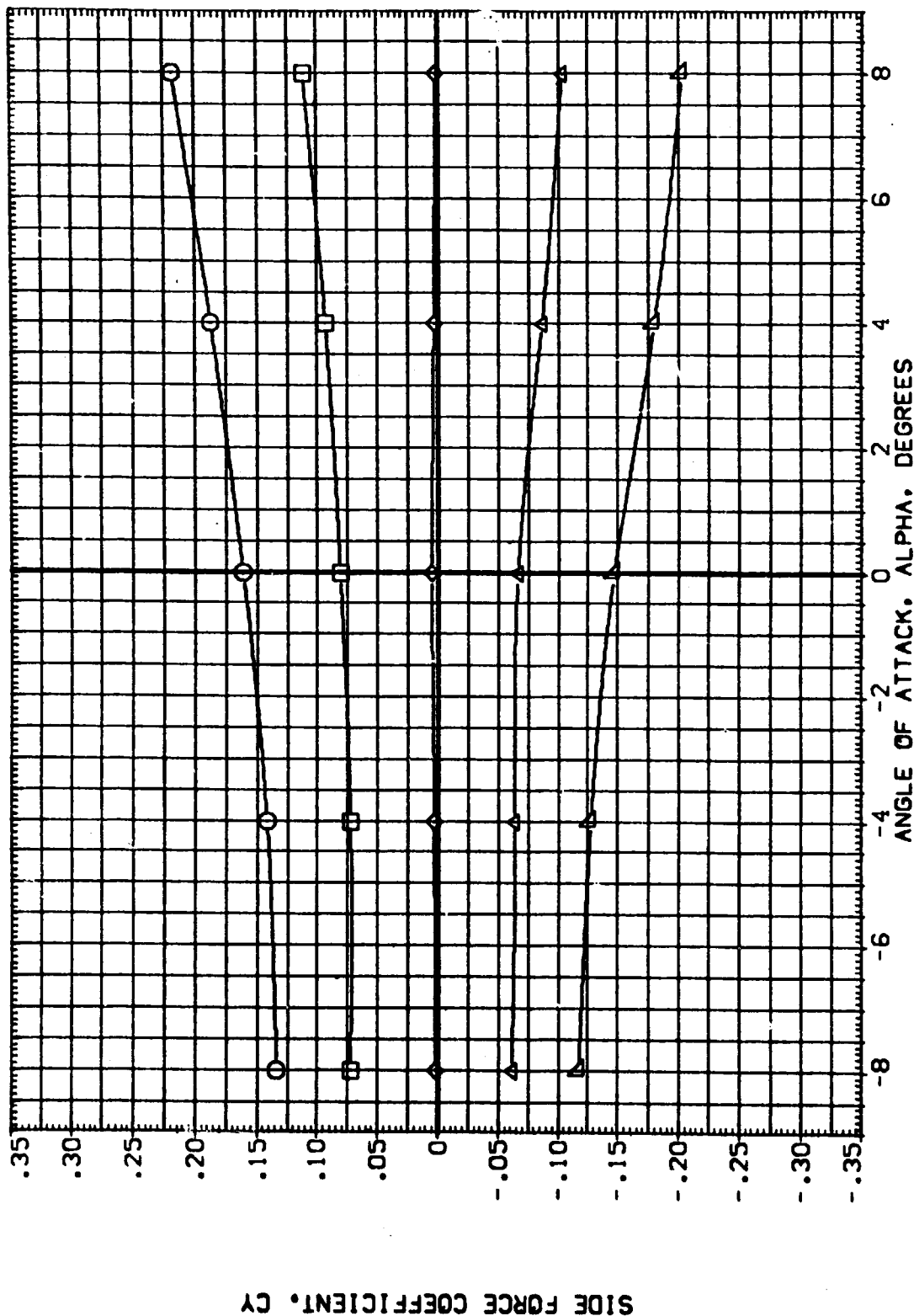


FIG. 18 LV (01 T12 S12 N25) , MACH = .90 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1144)

SYMBOL BETA

PARAMETRIC VALUES	WACH	WADDER	WACH	ELEVON	SPOBRK
△	-8.000			.900	.000
□	-4.000			.000	.000
◇	.000			.000	.000
▽	4.000			.000	.000
	8.000			.000	.000

REFERENCE INFORMATION

SREF	2.4210	SO.FT.
UREF <td>38.7090 <td>IN.</td> </td>	38.7090 <td>IN.</td>	IN.
XREF <td>38.7090 <td>IN.</td> </td>	38.7090 <td>IN.</td>	IN.
YREF <td>.0000 <td>IN.</td> </td>	.0000 <td>IN.</td>	IN.
ZREF <td>.0000 <td>IN.</td> </td>	.0000 <td>IN.</td>	IN.
SCALE <td>9.9900 <td>.0300</td> </td>	9.9900 <td>.0300</td>	.0300

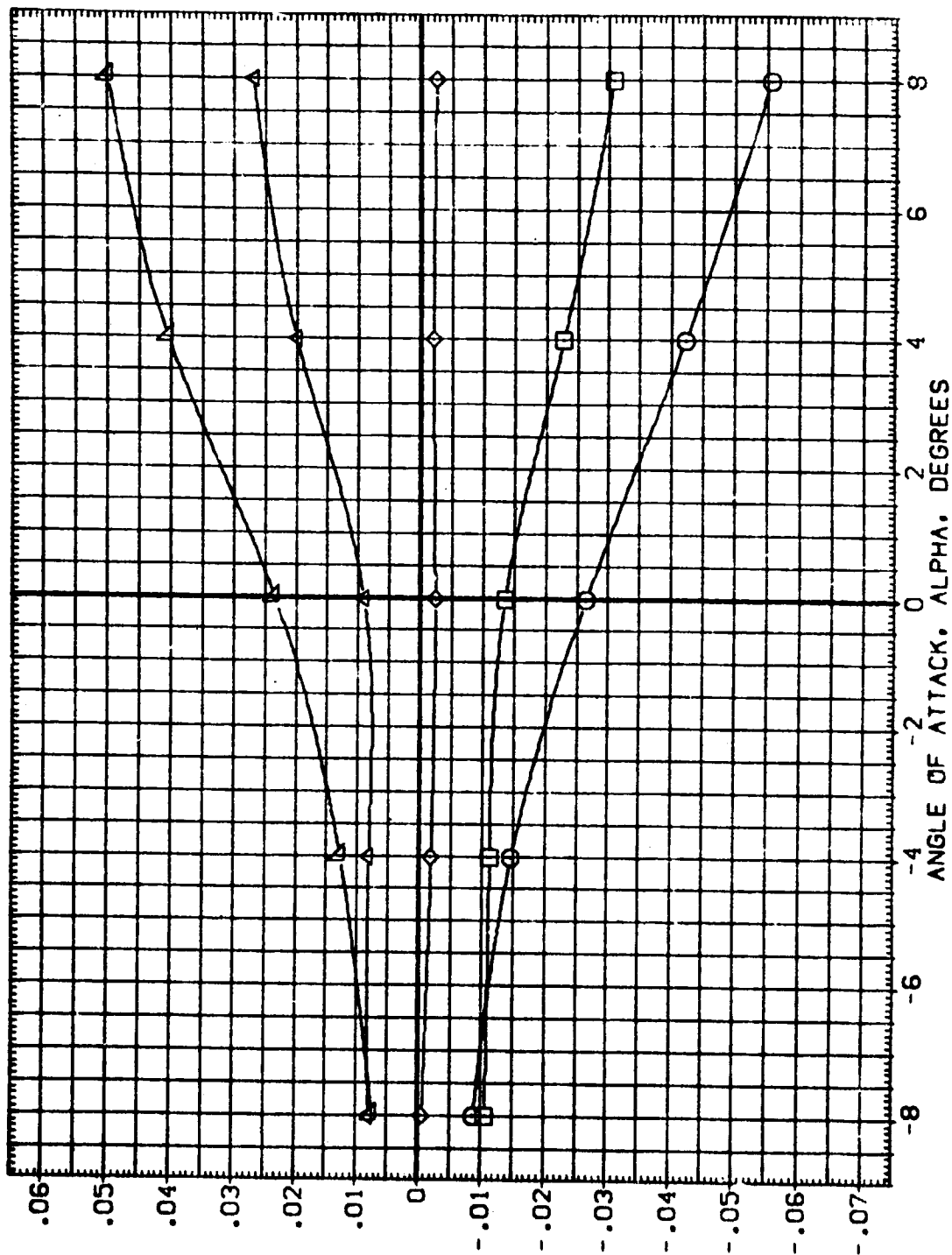


FIG. 18 LV (01 T12 S12 N25) , MACH = .90 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1144)

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7080
 BREF 38.7080
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000
 MACH .900
 RUDDER .000
 ELEVON .000
 SPOBRK .000

SYMBOL
 ○ □ ◇ △ ▽

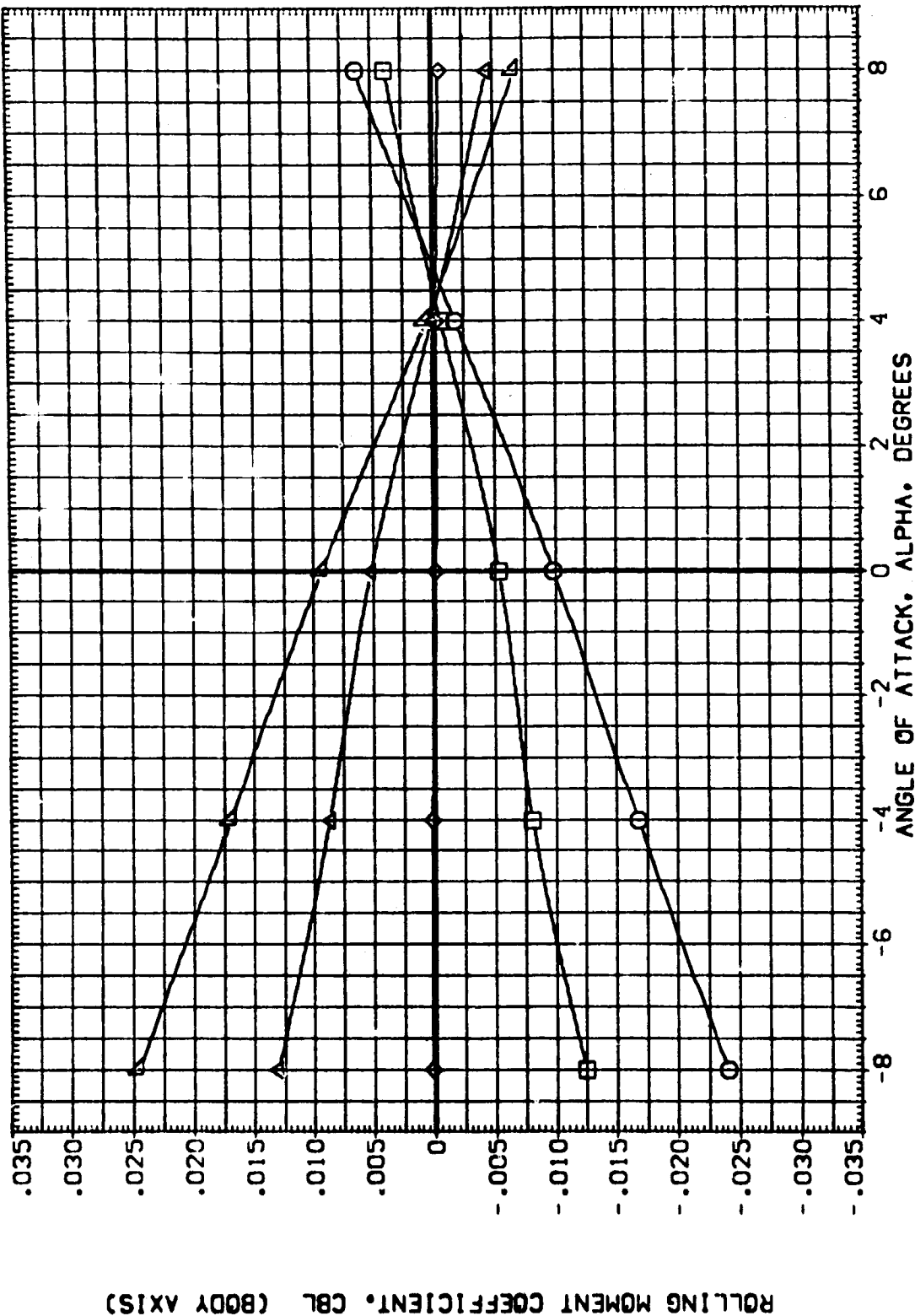


FIG. 18 LV (01 T12 S12 N25) , MACH = .90 (TANK + SRM BALANCE)

000000

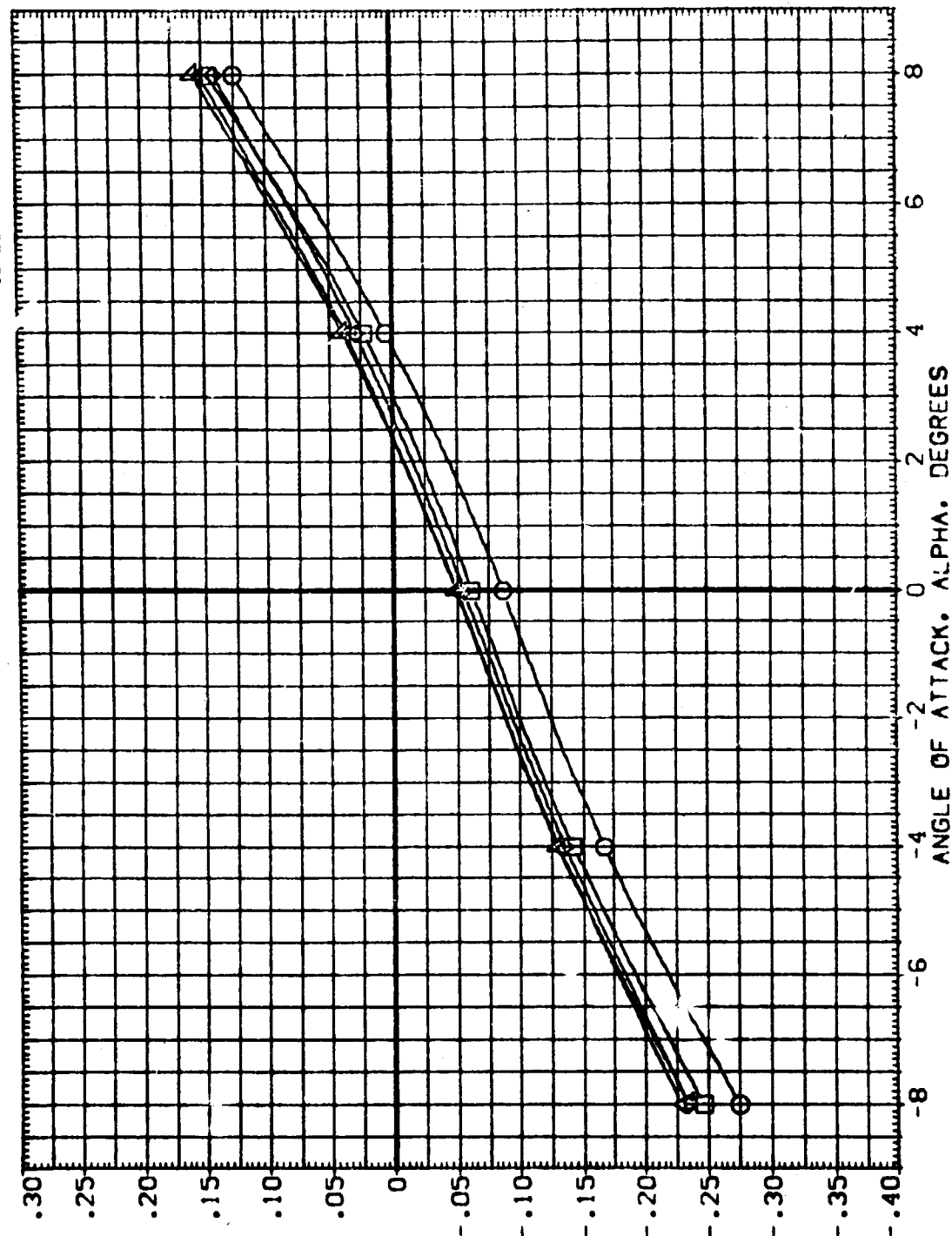


FIG. 19 LV (01 T12 S12 N25) , MACH = .95 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1145)

SYMBOL
 7
 4
 1
 0
 0
 0
 4
 2

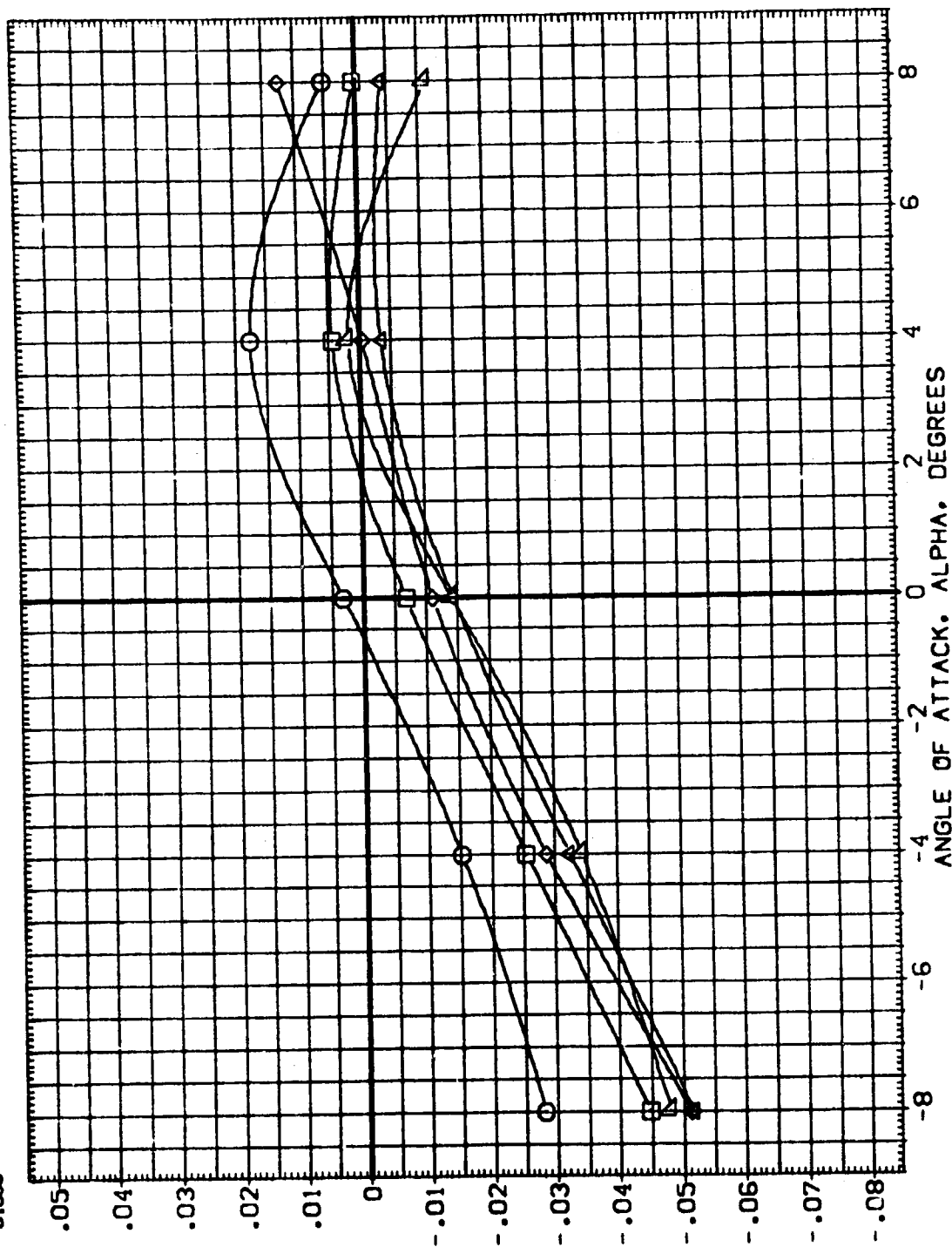
BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER
 .000
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 .949
 .000
 .000
 .000
 .000

ELEVON
 SPOBRK
 .000
 .000
 .000
 .000
 .000

PITCHING MOMENT COEFFICIENT, CLM



(TANK + SRM BALANCE)

FIG. 19 LV (01 T12 S12 N25) • MACH = .95

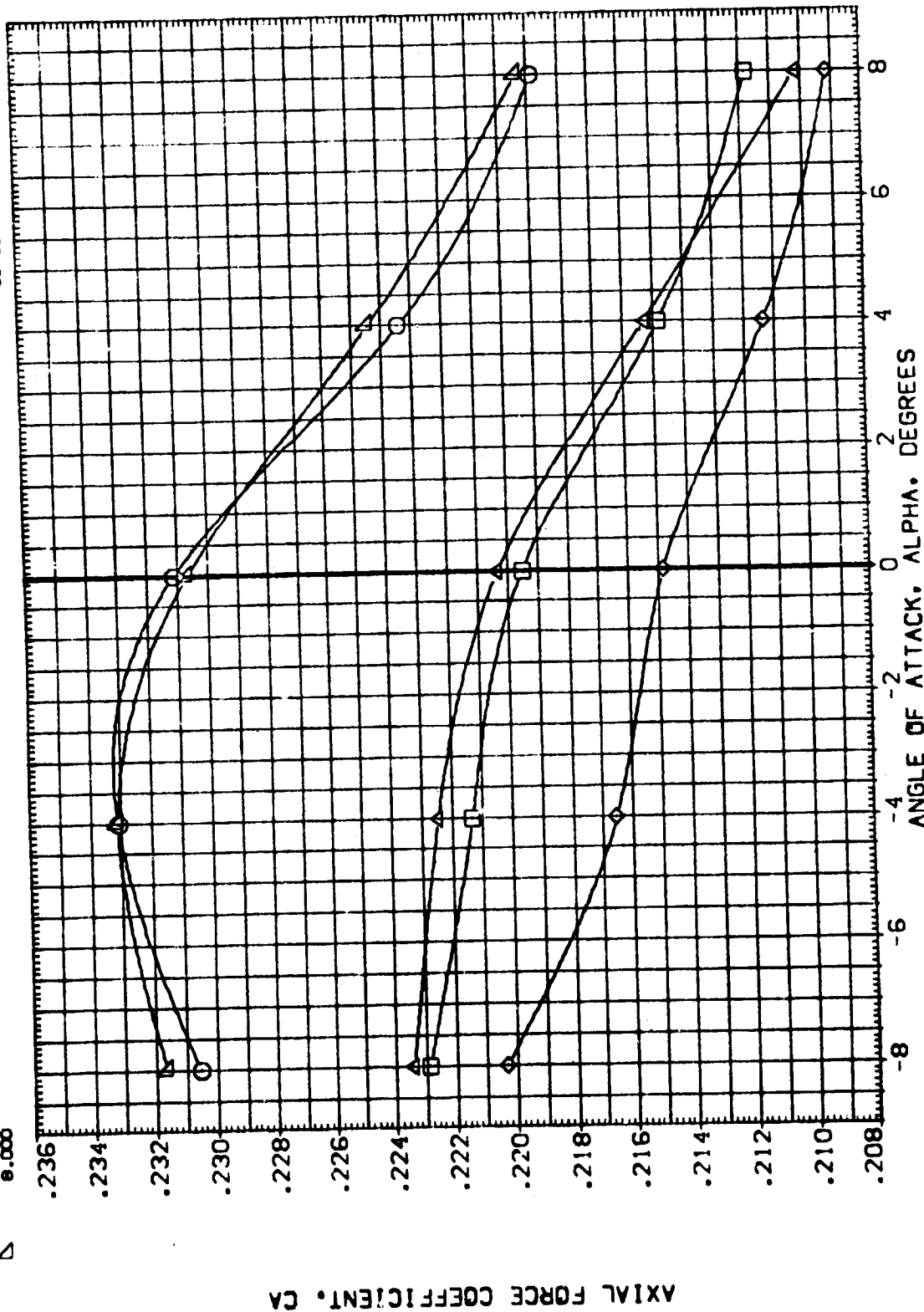
AMES 11-716 IA14A 01+T12+S12N25 (TANK+SRM) (IB1145)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .949
 RUDDER .000
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SQ.FT.
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.5900
 SCALE .0300



(TANK + SRM BALANCE)

FIG. 19 LV (01 T12 S12 N25) • MACH = .95

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1145)

REFERENCE INFORMATION

SREF	2.4210	50.FT.
LREF	38.7090	IN.
BREF	38.7090	IN.
XMRP	.0000	IN.
YMRP	.0000	IN.
ZMRP	9.9500	IN.
SCALE	.0300	

PARAMETRIC VALUES

MACH	.949	ELEVON	.000
RUDDER	.000	SPOBRK	.000

SYMBOL
 -8.000
 -4.000
 .000
 4.000
 8.000

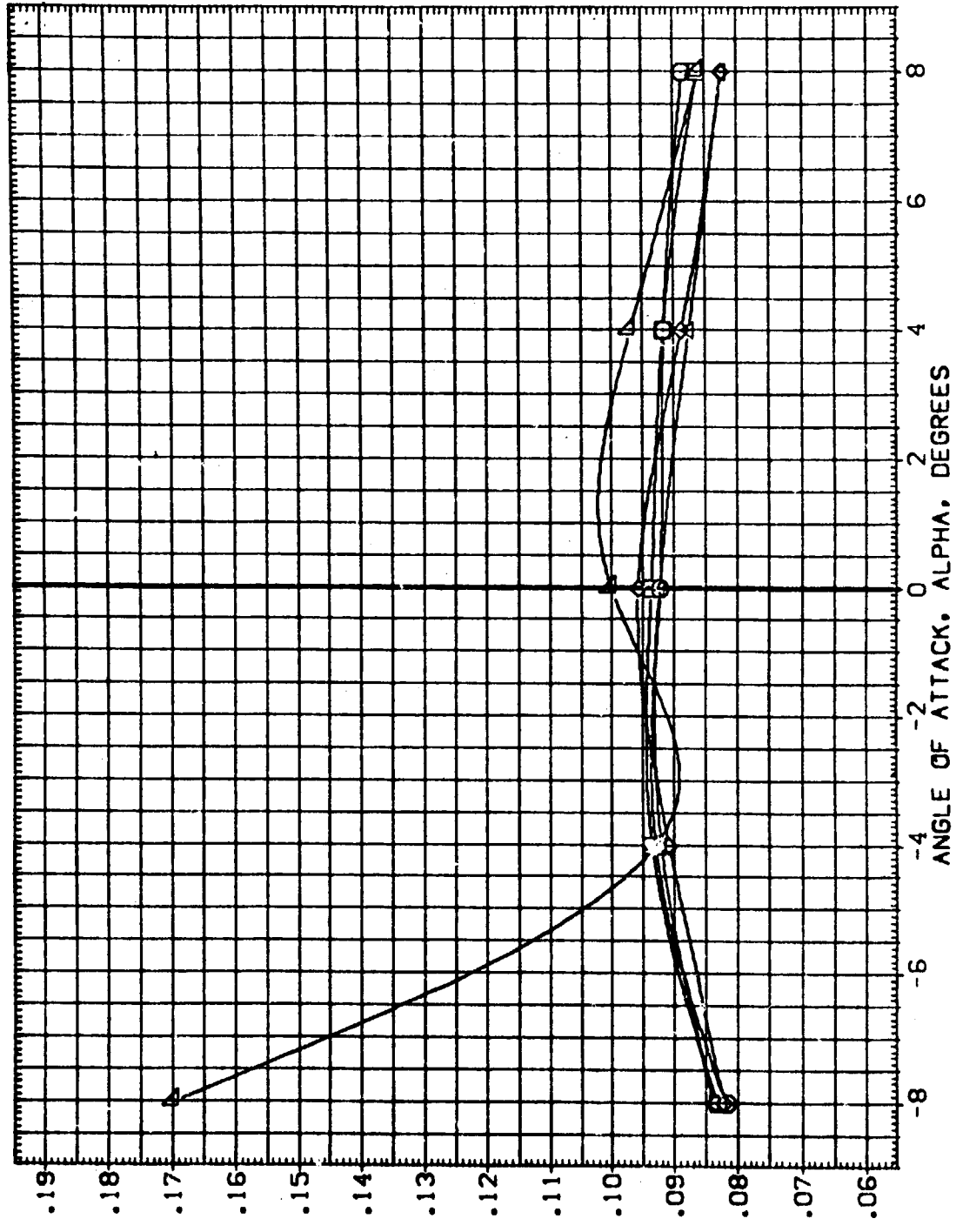


FIG. 19 LV (01 T12 S12 N25) • MACH = .95 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1145)

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000
 MACH 4.000
 RUDDER 4.000
 ELEVON .000
 SPOBRK .000

SYMBOL
 ○ □ ◇ △

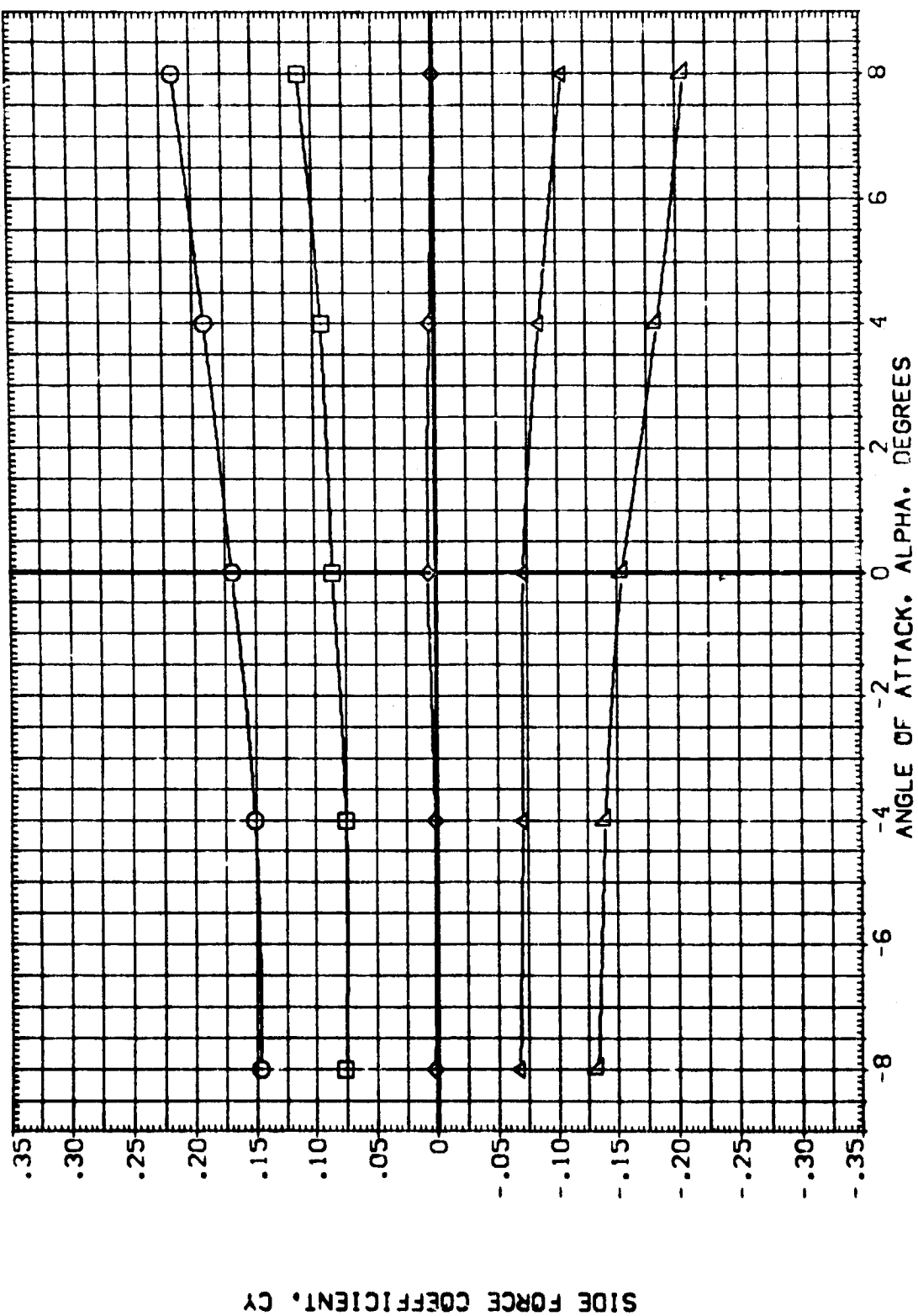


FIG. 19 LV (01 T12 S12 N25) , MACH = .95 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1145)

SYMBOL
 ○ □ ◇ △ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .949
 RUDDER .000
 ELEVON .000
 SPEEDK .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)

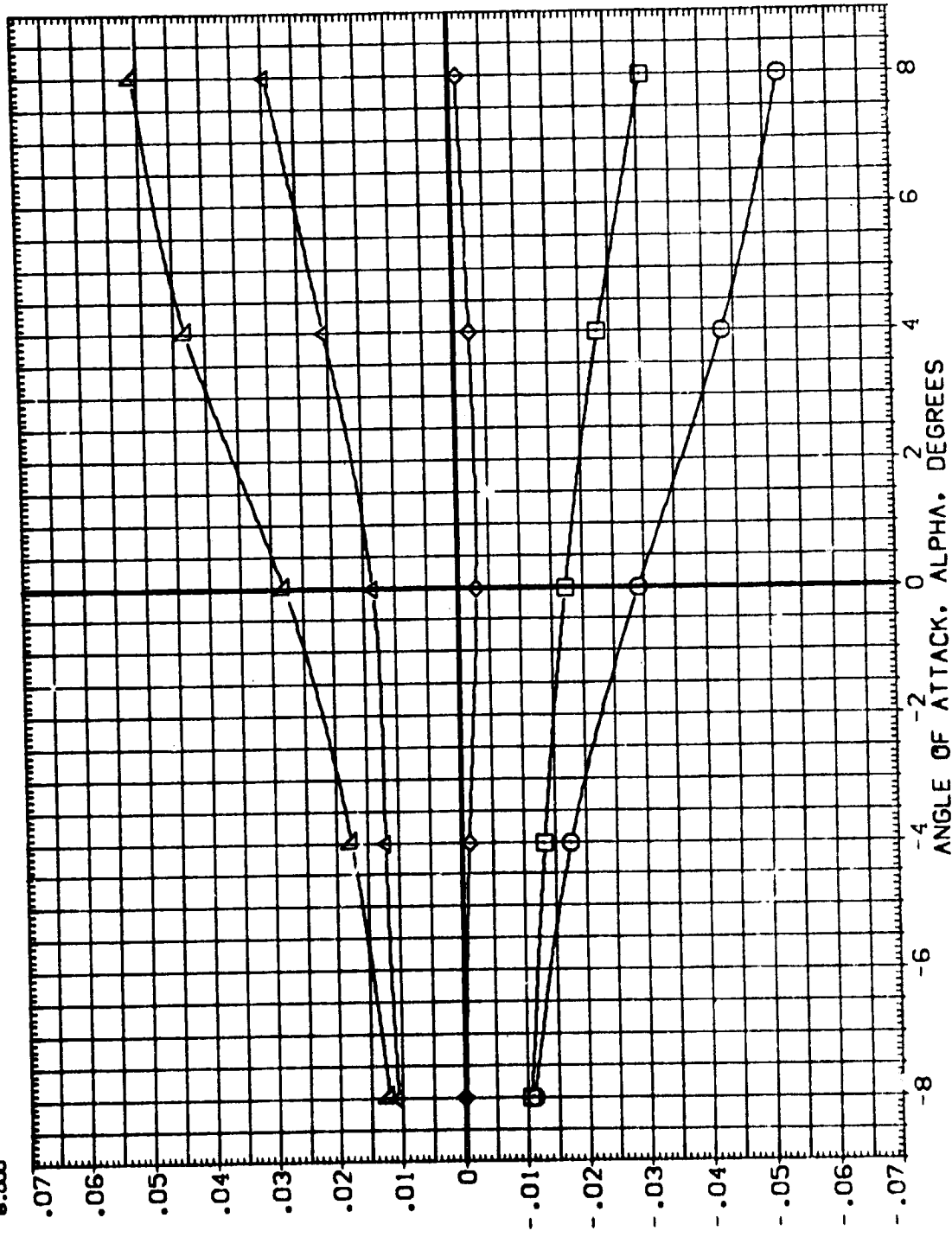


FIG. 19 LV (01 T12 S12 N25) • MACH = .95 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1145)

SYMBOL
 ▽
 ◇
 □
 ○
 △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 .949

PARAMETRIC VALUES
 ELEVON .000
 SPOBRK .000

ROLLING MOMENT COEFFICIENT, CBL (BODY AXIS)

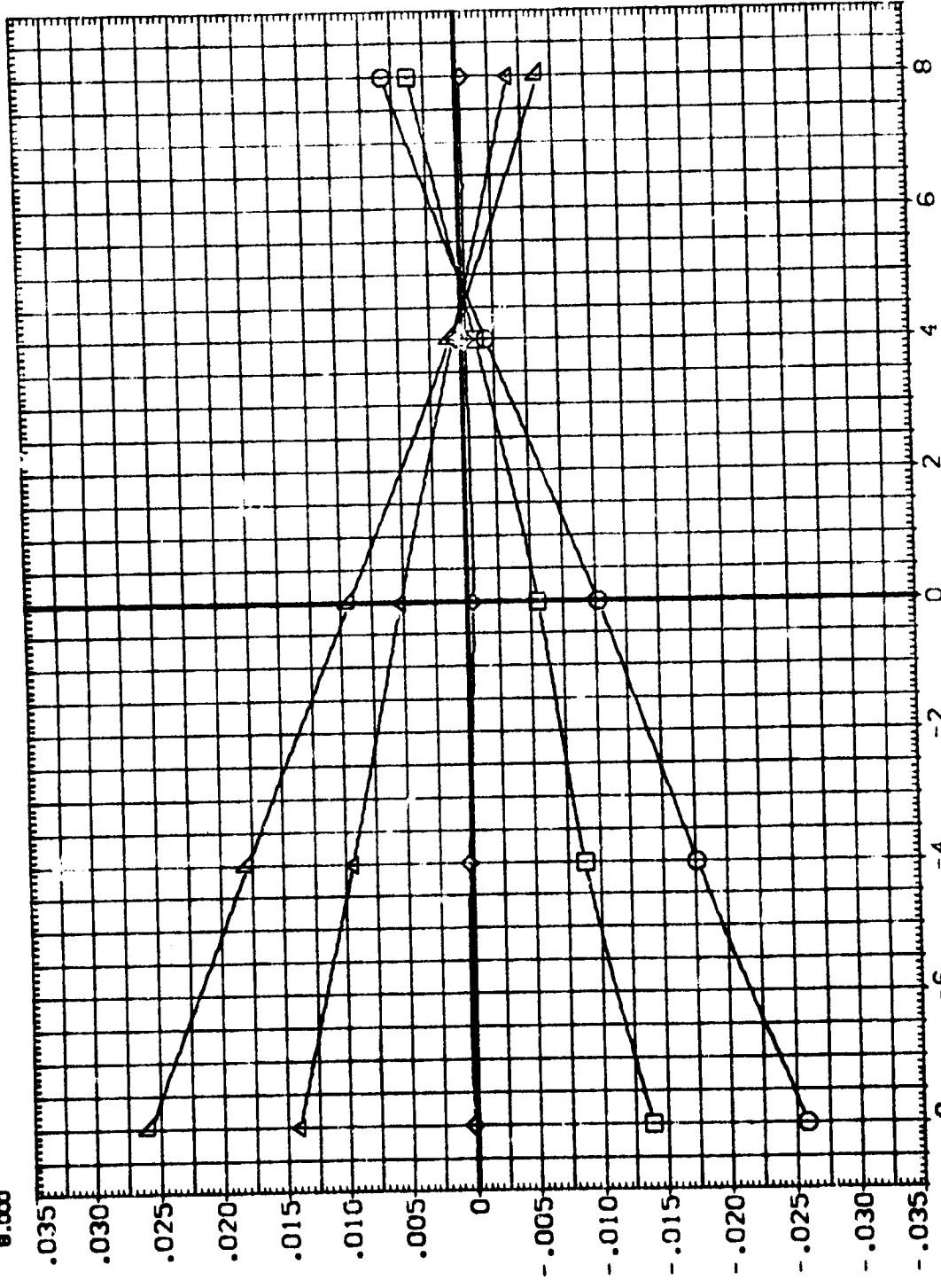


FIG. 19 LV (01 T12 S12 N25) , MACH = .95 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (181146)

SYMBOL
 ○ □ ◇ △ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .975
 ELEVON .000
 SPOBRK .000

FLUOR .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 YMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

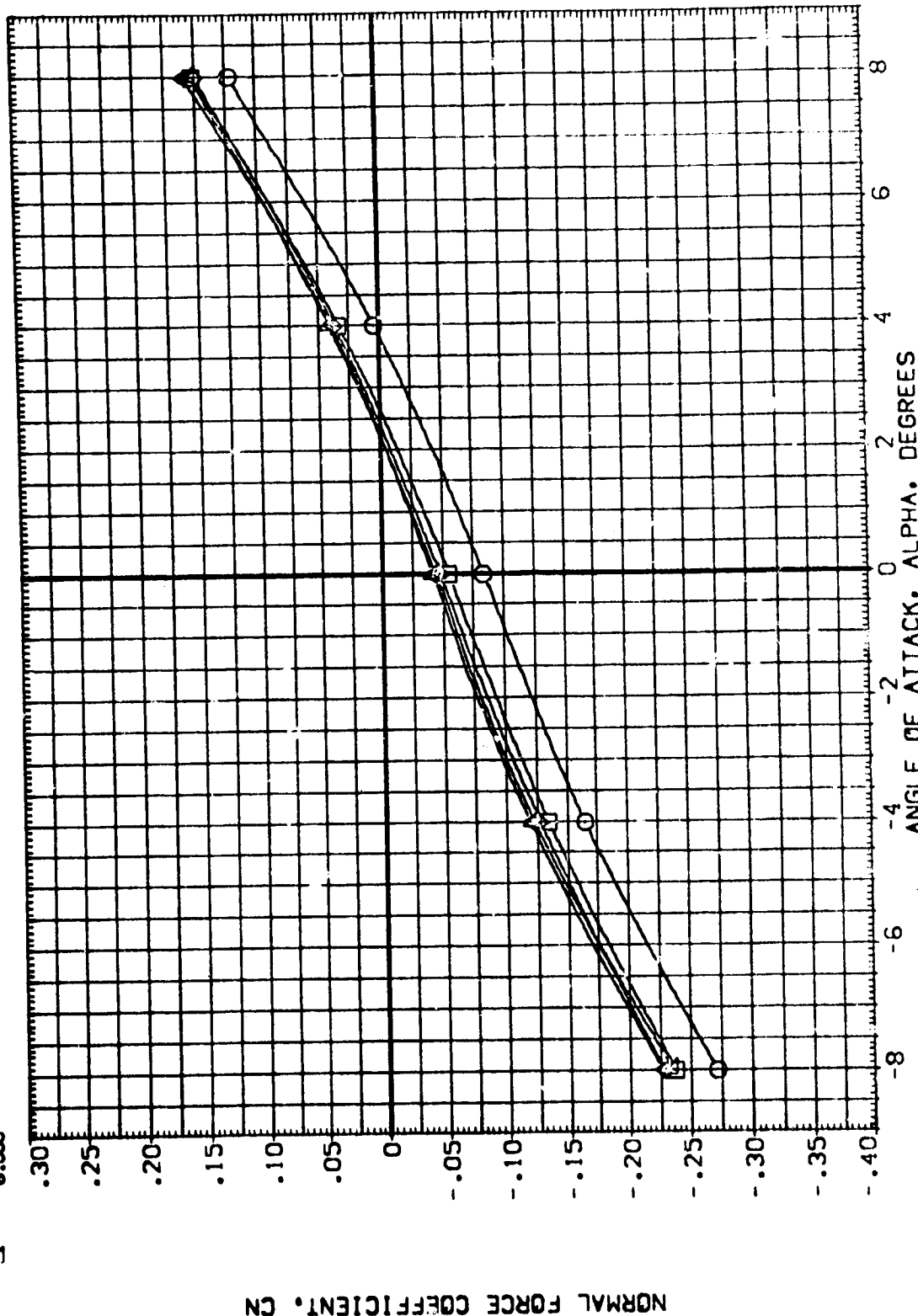


FIG. 25 LV (01 T12 S12 N25) • MACH = .975 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (181146)

SYMBOL
 7D0[0]
 000000

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .975 ELEVON
 .000 SPOBRK

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.5100 IN.
 SCALE

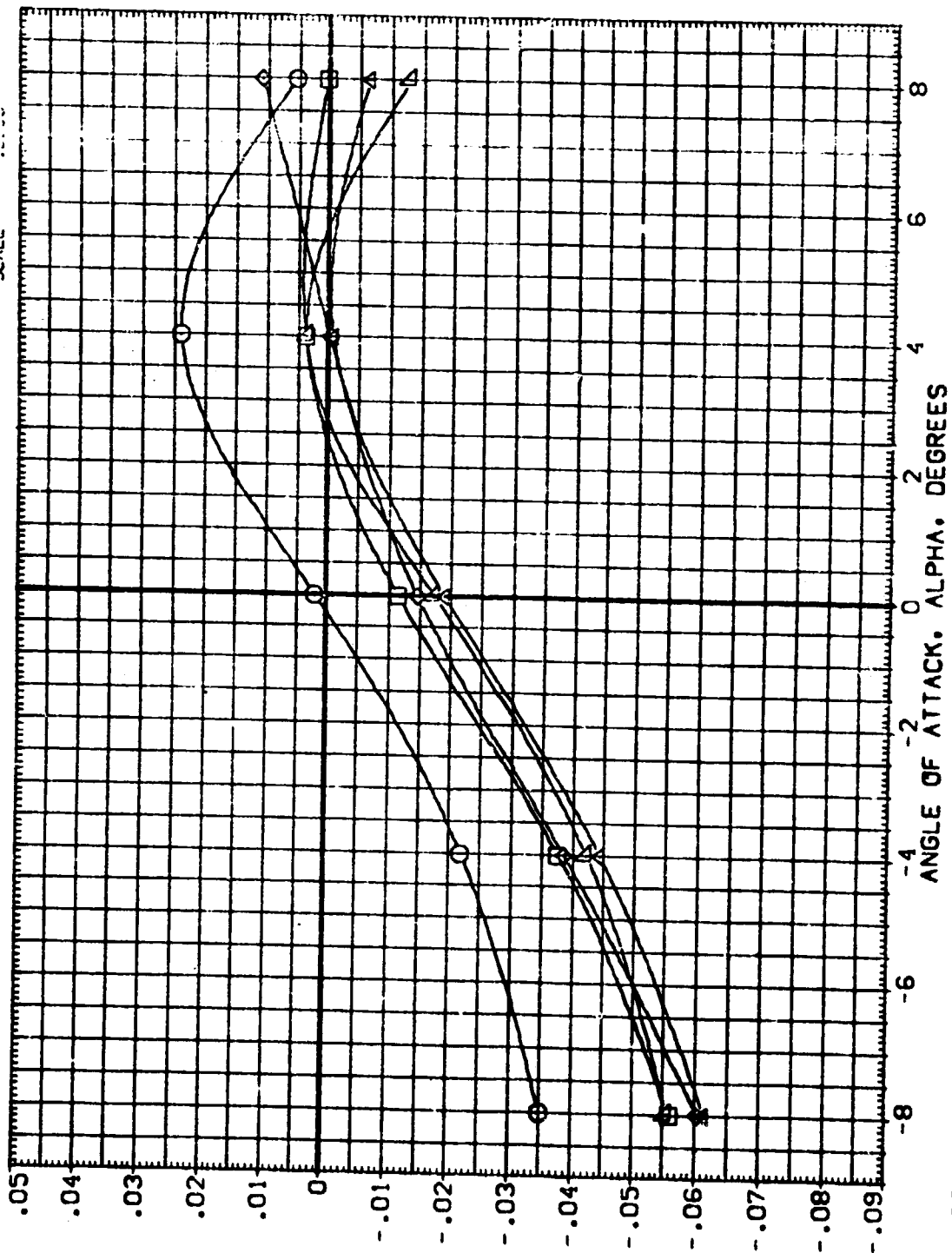


FIG. 20 LV (01 T12 S12 N25) , MACH = .975 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1146)

SYMBOL
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 .975
 .000
 .000
 .000

MACH
 RUDDER

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7050
 BREF 38.7050
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

SO.FT.
 IN.
 IN.
 IN.
 IN.
 IN.

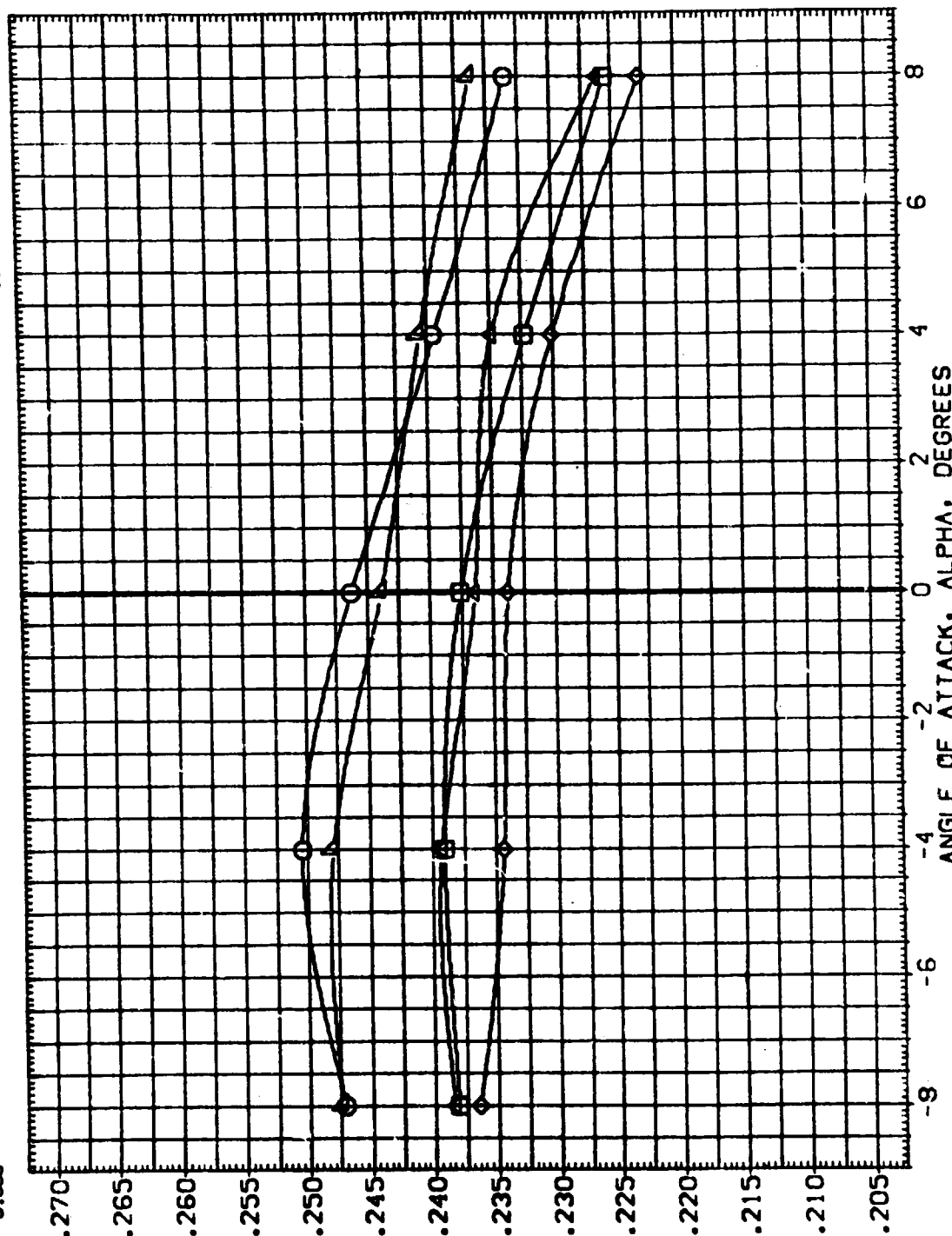


FIG. 20 LV (01 T12 S12 N25) , MACH = .975 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1146)

SYMBOL
 O
 □
 ◇
 △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 .975
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 SPOSRK

REFERENCE INFORMATION
 SREF 2.4210 SO.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.5500 IN.
 SCALE .0300

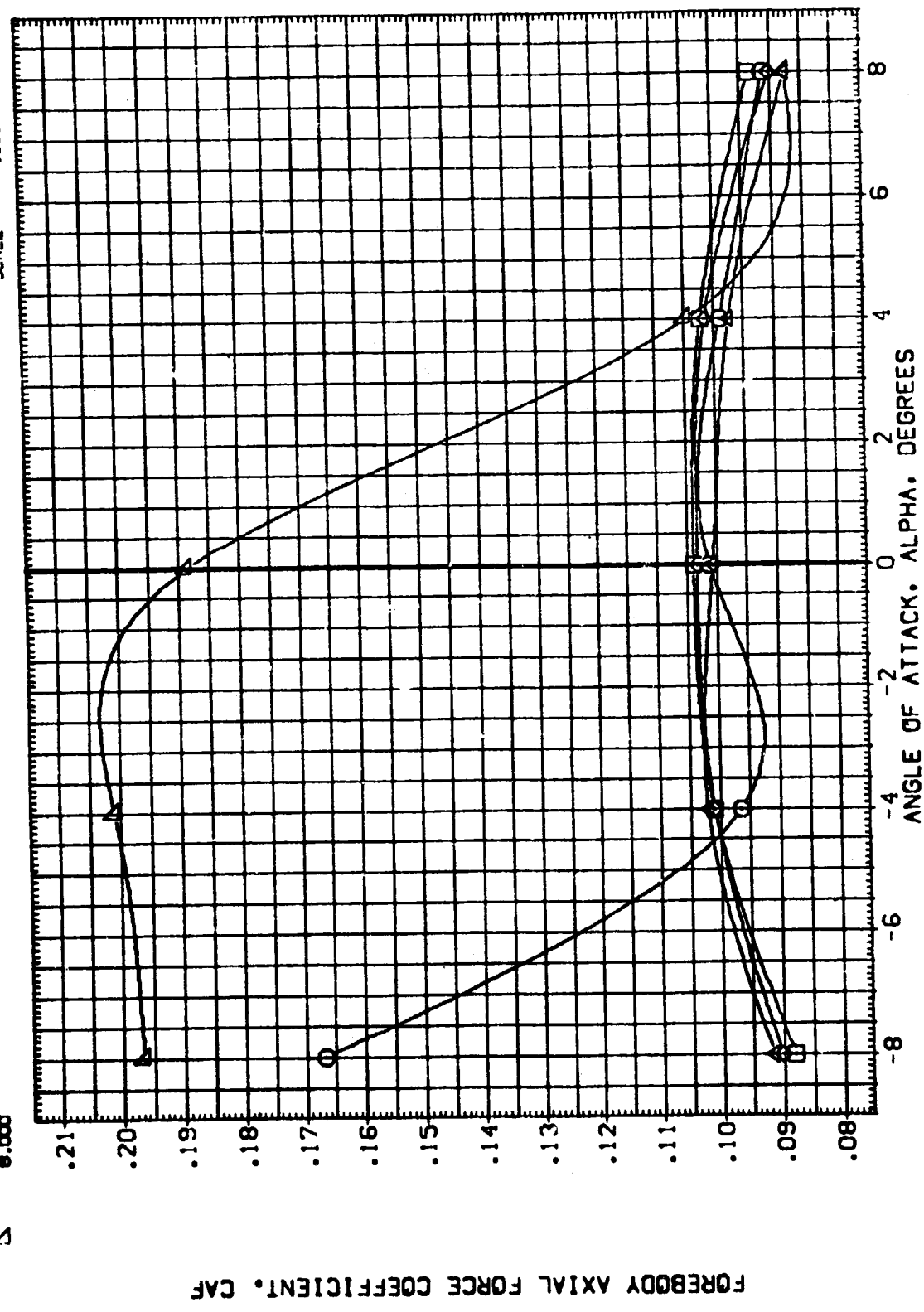


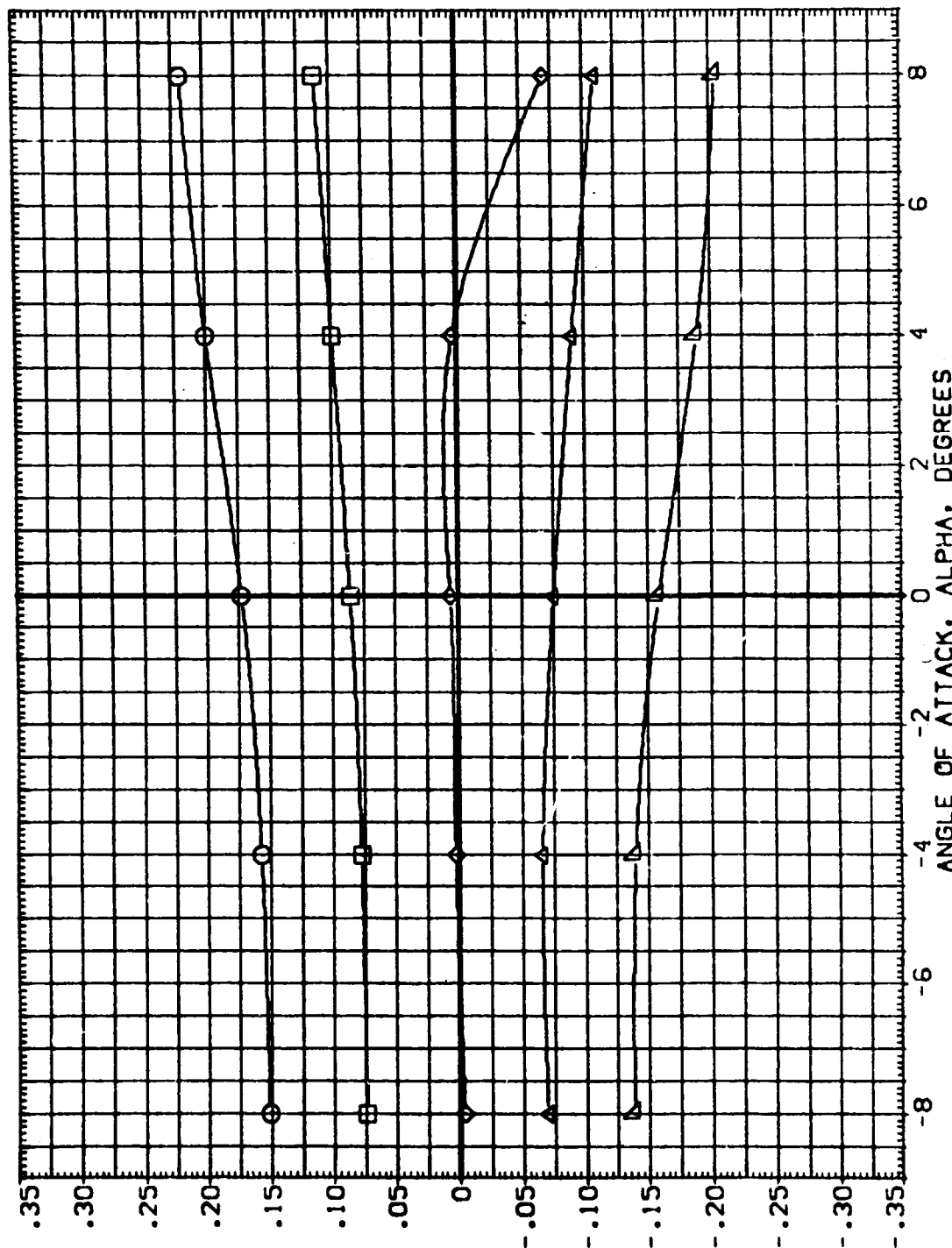
FIG. 20 LV (01 T12 S12 N25) • MACH = .975 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1146)

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000
 MACH .975
 ELEVON .000
 RUDDER .000
 SPOBRK .000

SYMBOL
 ○ □ ◇ △ ▽



SIDE FORCE COEFFICIENT, CY

FIG. 20 LV (01 T12 S12 N25) , MACH = .975 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1146)

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.5900 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000
 MACH .975
 ELEVON .000
 RUDDER .000
 SPOBRK .000

SYMBOL
 □ ◇ △ ▽

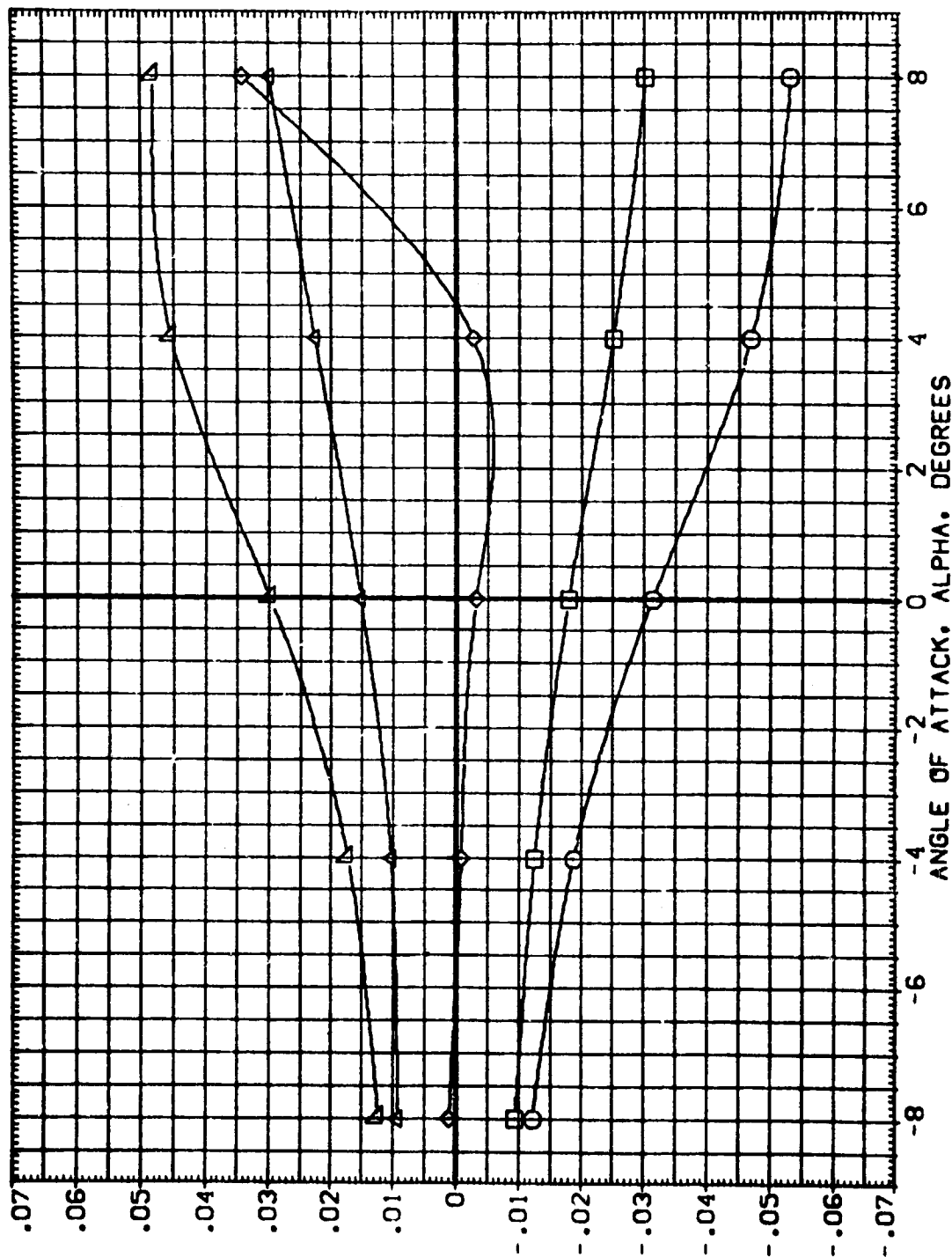


FIG. 20 LV (01 T12 S12 N25) , MACH = .975 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1146)

SYMBOL
○ □ ◇ △

BETA
-8.000
-4.000
.000
4.000
8.000

MACH
RUDDER

PARAMETRIC VALUES
.975 ELEVON
.000 SPOILER

.000
.000

REFERENCE INFORMATION
SREF 2.4210 SQ.FT.
LREF 38.7050 IN.
BREF 38.7050 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9900 IN.
SCALE .0300

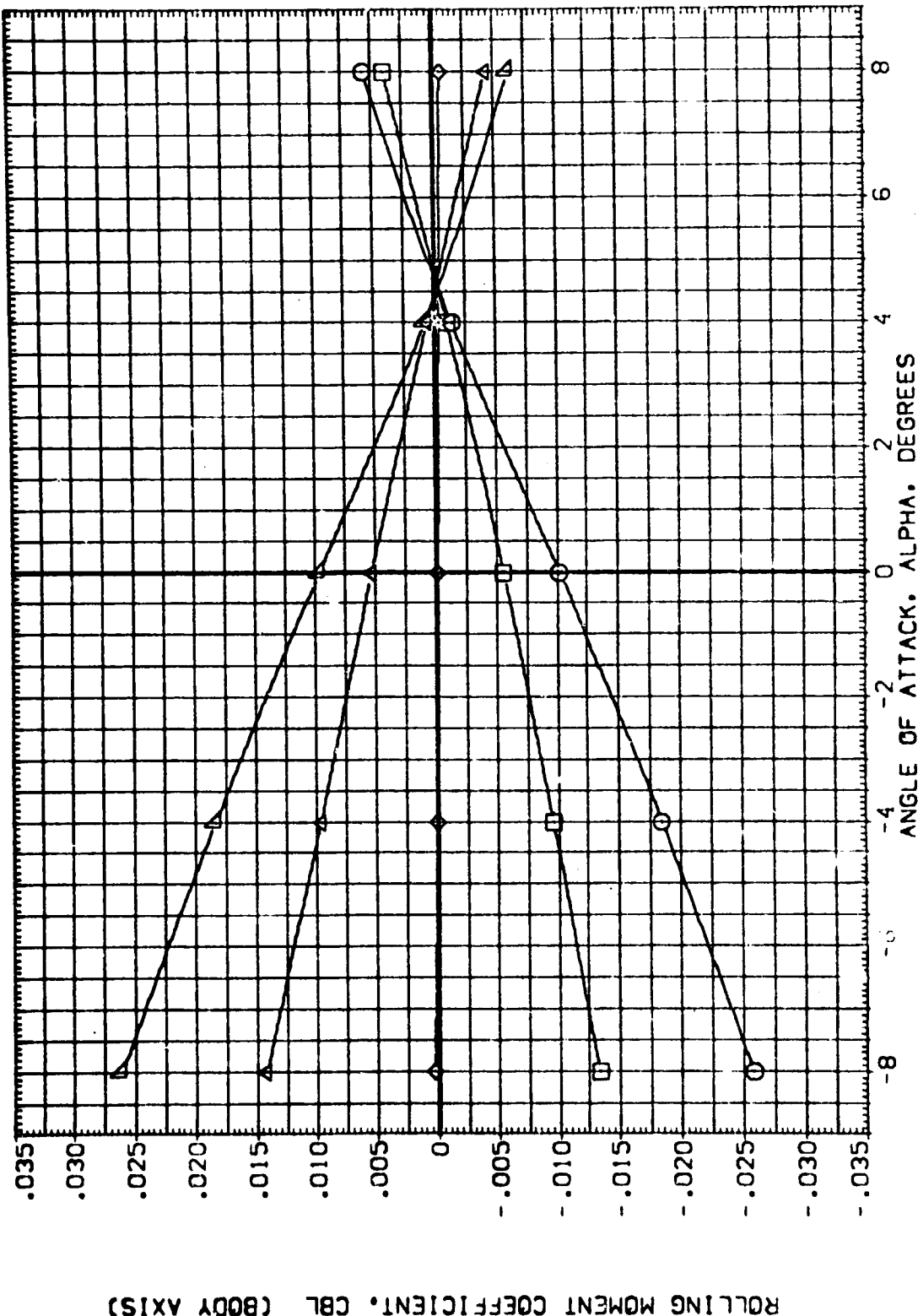


FIG. 20 LV (01 T12 S12 N25) • MACH = .975 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1147)

REFERENCE INFORMATION

SREF	2.4210	SO.FT.
LREF	38.7090	IN.
BREF	38.7090	IN.
XMRP	.0000	IN.
YMRP	.0000	IN.
ZMRP	9.9900	IN.
SCALE	.0300	

PARAMETRIC VALUES

BETA	MACH	ELEVON
-8.000	1.049	.000
-4.000	.000	.000
.000		
4.000		
8.000		

SYMBOL
 ○ □ ◇ △ ▽

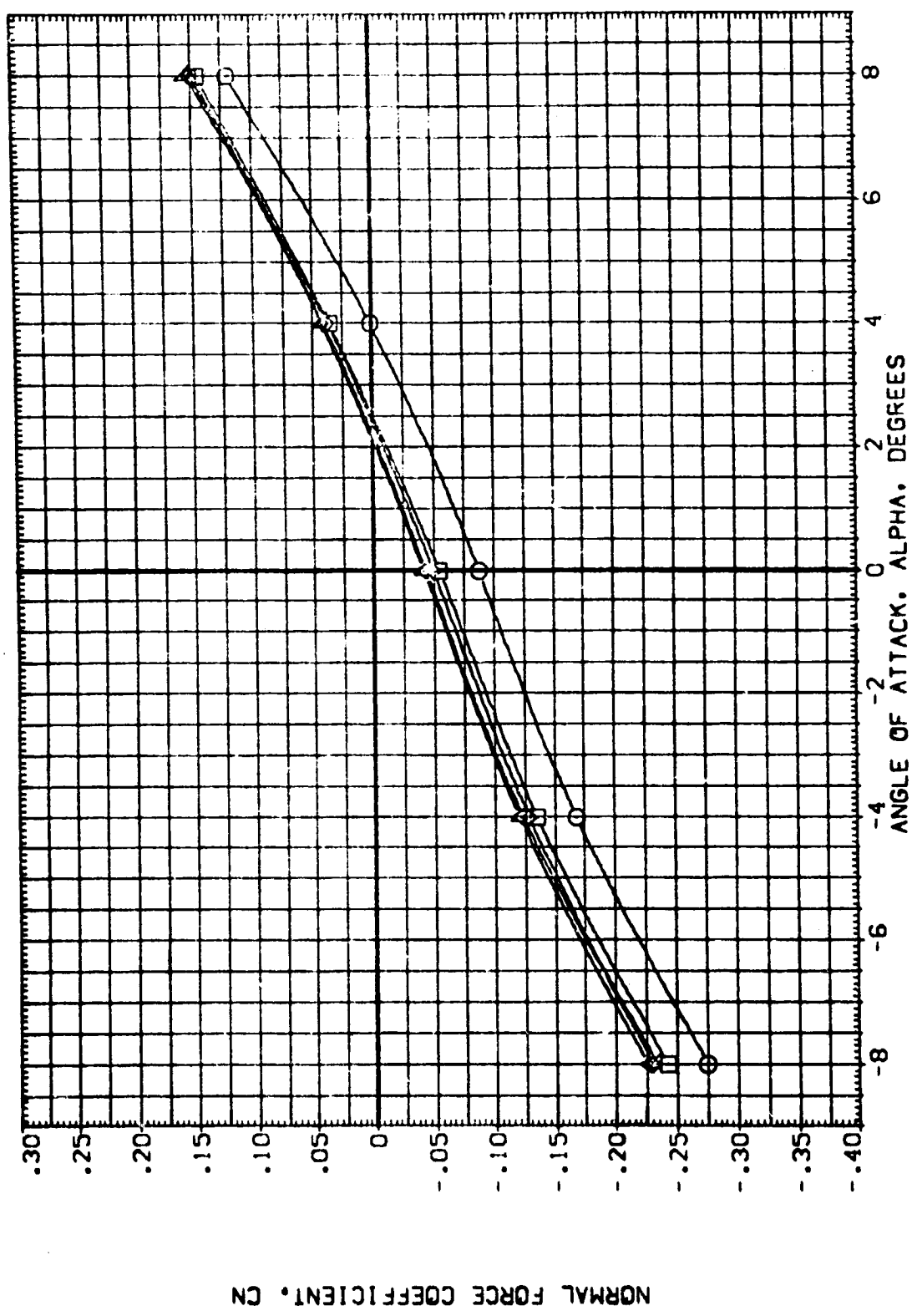


FIG. 21 LV (01 T12 S12 N25) • MACH = 1.05 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1147)

SYMBOL
 ○ □ ◇ △ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.049
 ELEVON .000
 SPOBRK .000

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

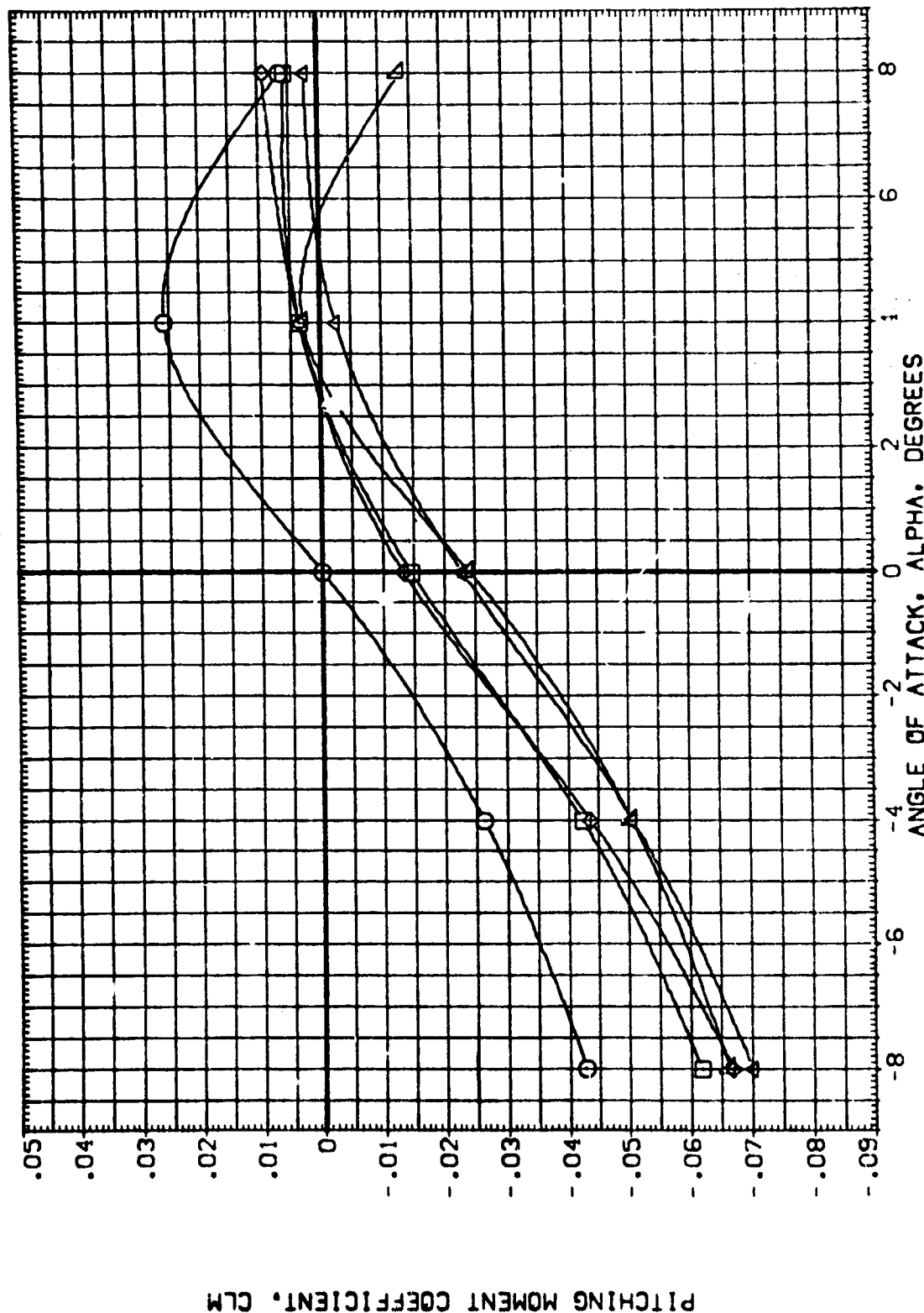


FIG. 21 LV (01 T12 S12 N25) • MACH = 1.05 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (181147)

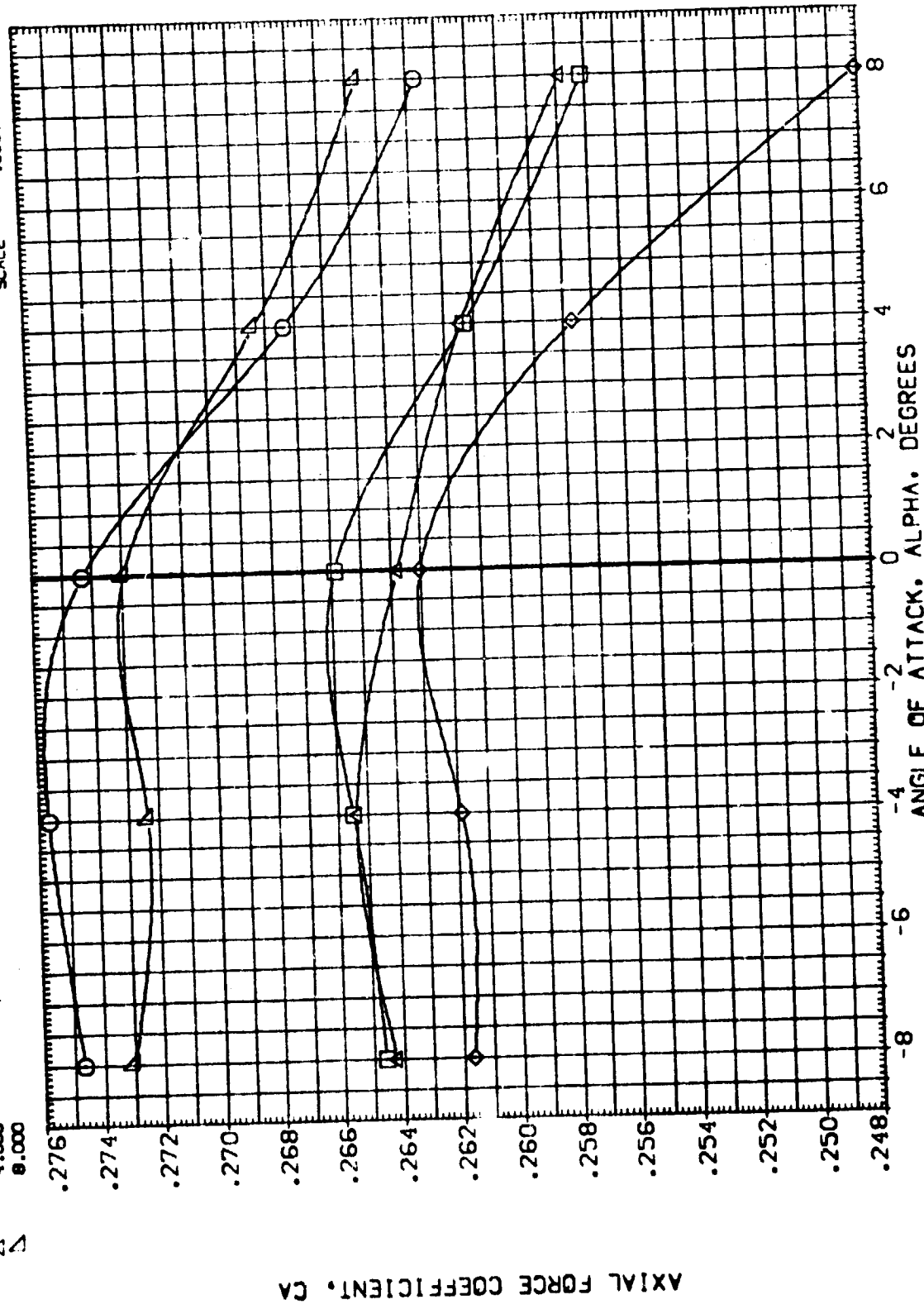
SYMBOL
 ○
 □
 △
 ◇
 ▲

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.049
 RUDDER .000
 ELEVON .000
 SPOBRK .000

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300



AXIAL FORCE COEFFICIENT, CA

(TANK + SRM BALANCE)

FIG. 21 LV (01 T12 S12 N25) • MACH = 1.05

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1147)

SYMBOL BETA MACH RUDDER
 ▽◇◇◇◇
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 1.049
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 YMRP .0000
 YMRP .0000
 ZMRP 9.9800
 SCALE .0300

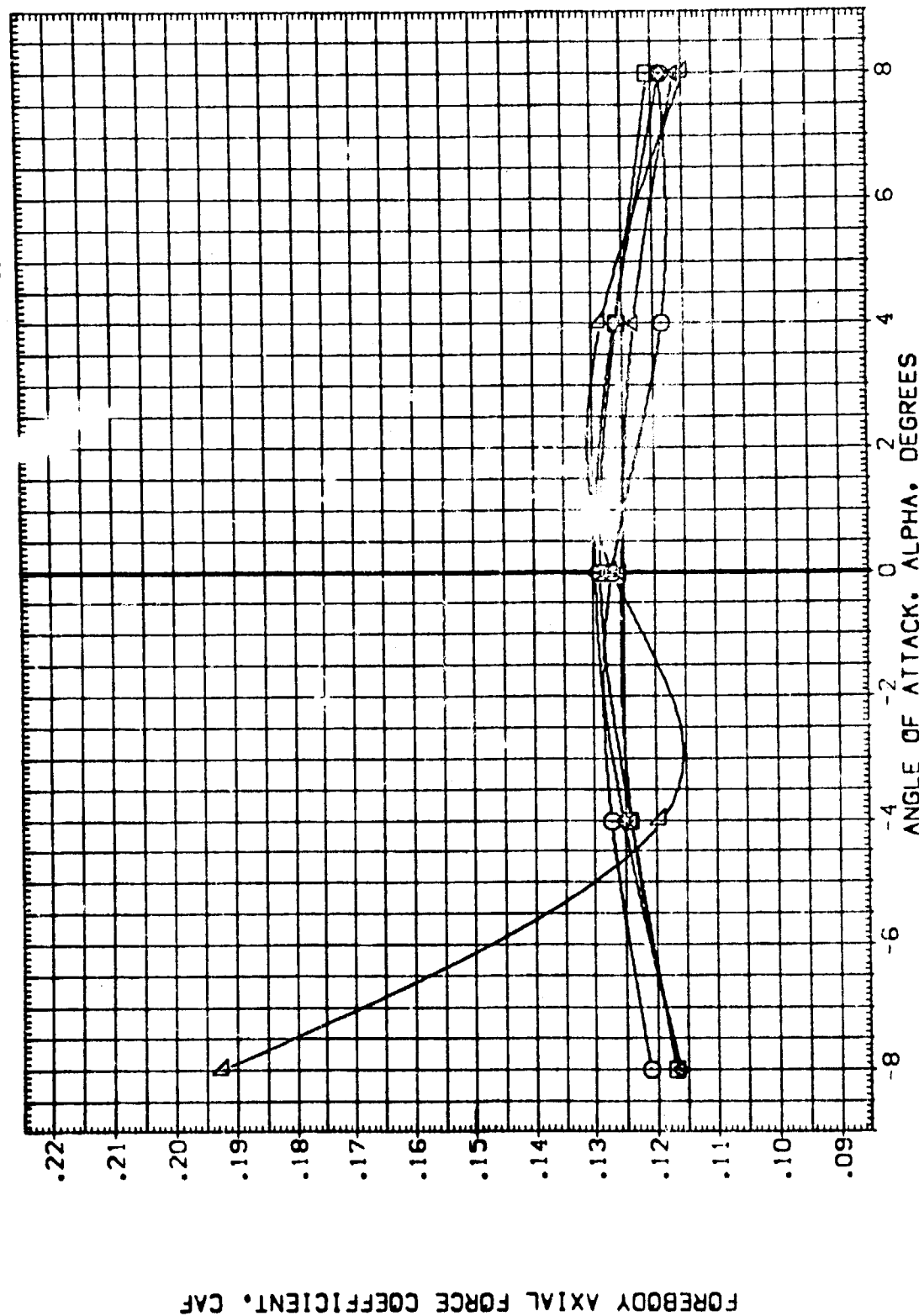


FIG. 21 LV (01 T12 S12 N25) , MACH = 1.05 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1147)

SYMBOL BETA MACH RUDDER
 O -9.000
 Δ -4.000
 ◇ -0.000
 △ 4.000
 ▽ 8.000

PARAMETRIC VALUES
 1.049 ELEVON
 .000 SPOBRK
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7050
 BREF 38.7050
 XMRP .0000
 YMRP .0000
 ZMRP 9.5900
 SCALE .0300

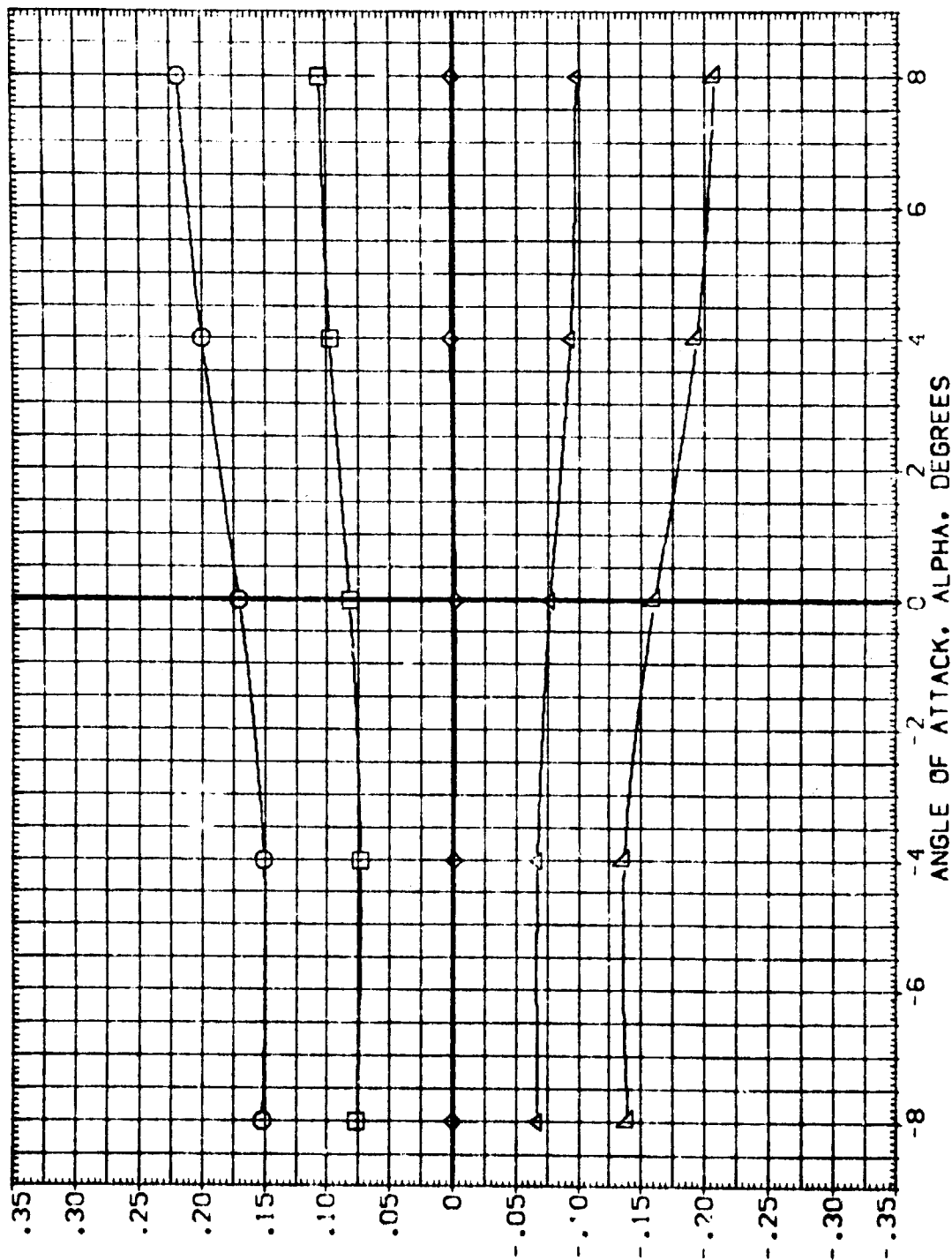


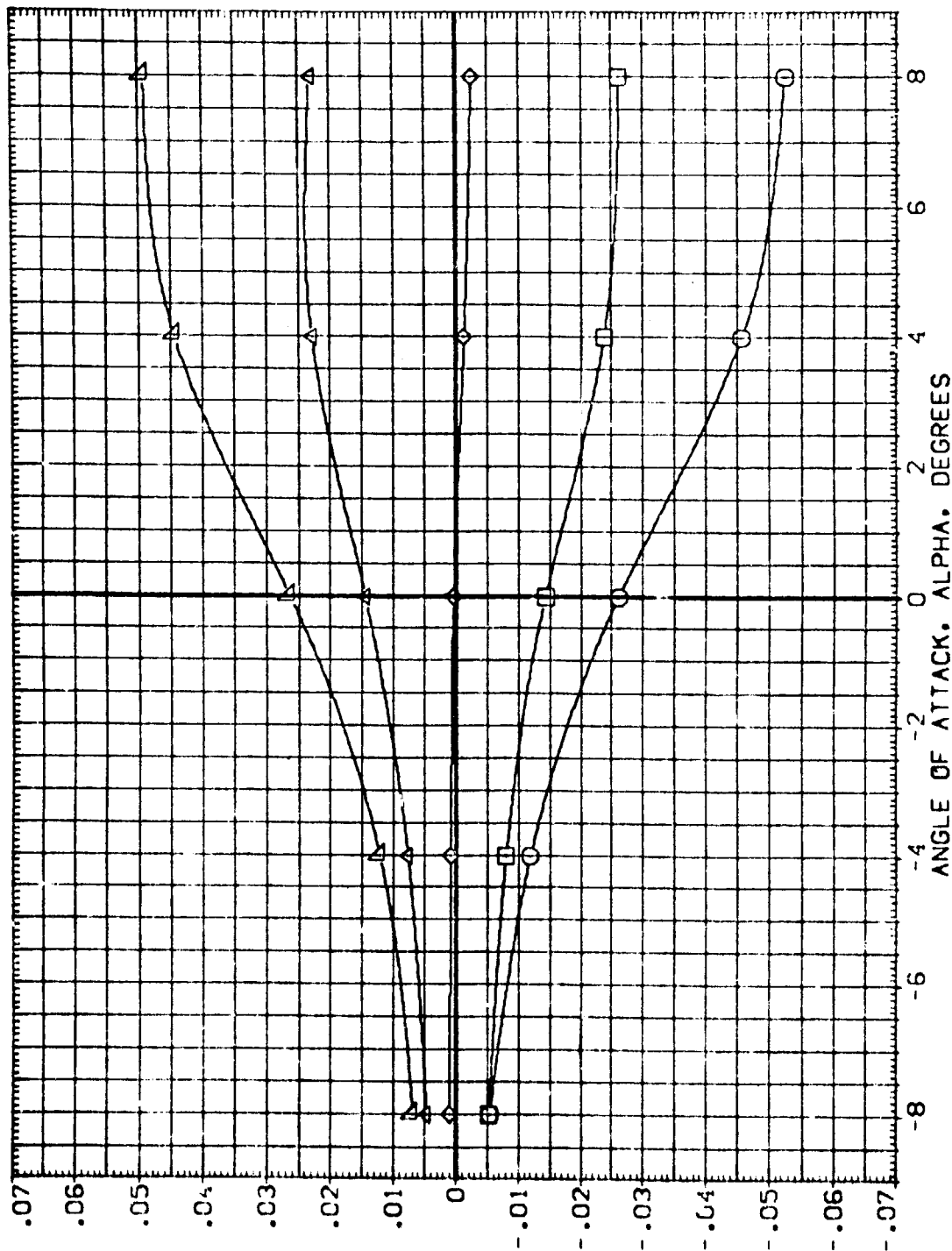
FIG. 21 LV (01 T12 S12 N25) • MACH = 1.05 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1147)

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000
 MACH 1.049
 ELEVON .000
 RUDDER .000
 SPOBRK .000
 4.000
 8.000

SYMBOL
 ○
 □
 ◇
 △
 ▼



YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)

FIG. 21 LV (01 T12 S12 N25) , MACH = 1.05 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1147)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	BETA	MACH	RUDDER	SREF	LREF	SQ.FT.
▽	-8.000	1.049	.000	2.4210	38.7090	IN.
◇	-4.000	.000	SPOBRK	38.7090	.0000	IN.
□	.000	.000		.0000	.0000	IN.
△	4.000	.000		.0000	.0000	IN.
▽	8.000	.000		9.9900	.0300	SCALE

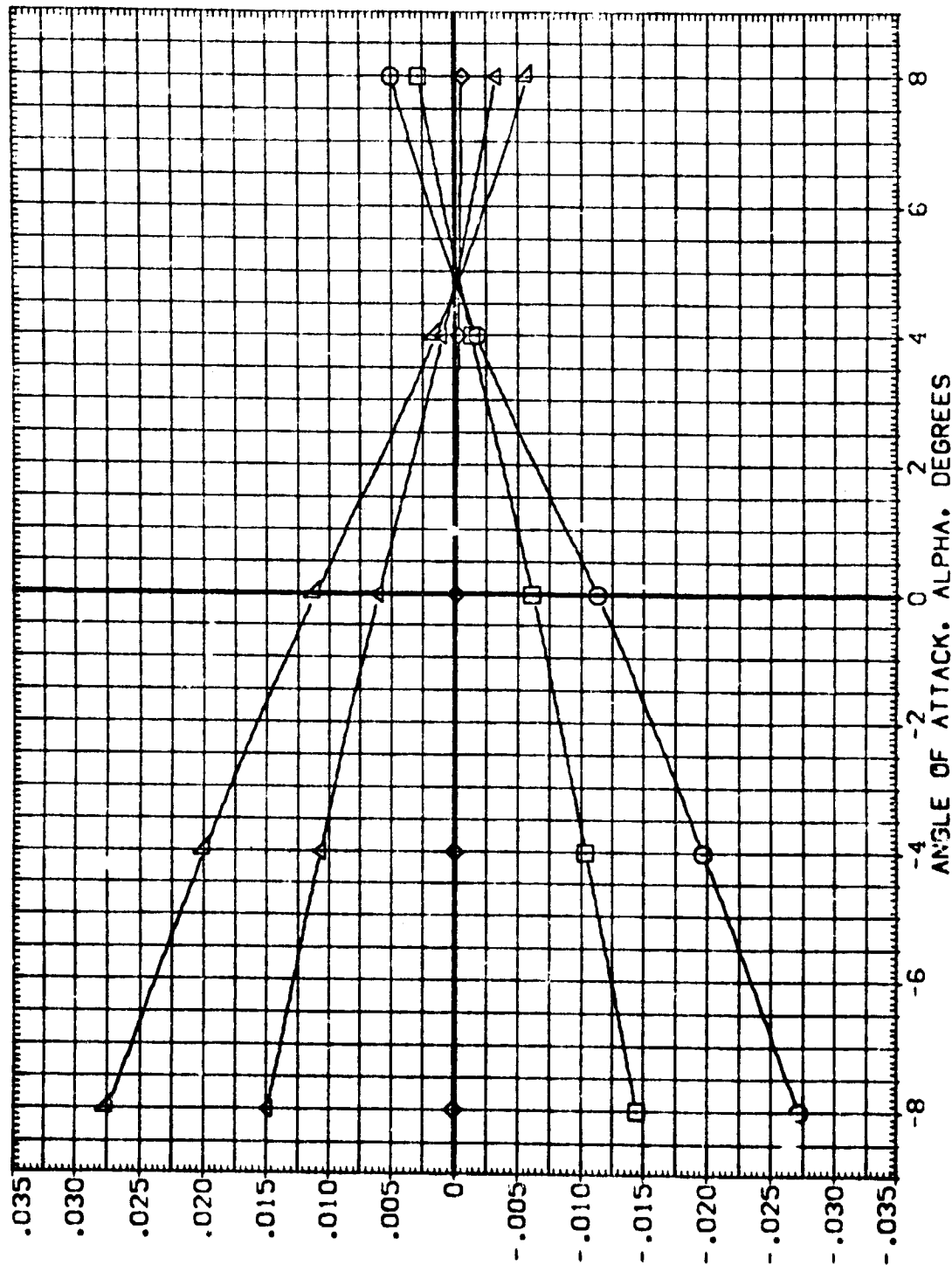


FIG. 21 LV (01 T12 S12 N25) , MACH = 1.05 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1148)

REFERENCE INFORMATION
 SREF 2.4210 50.FT.
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000
 MACH 1.101
 ELEVON .000
 RUDDER .000
 SPOBRK .000

SYMBOL
 ○
 □
 ◇
 △
 ▽

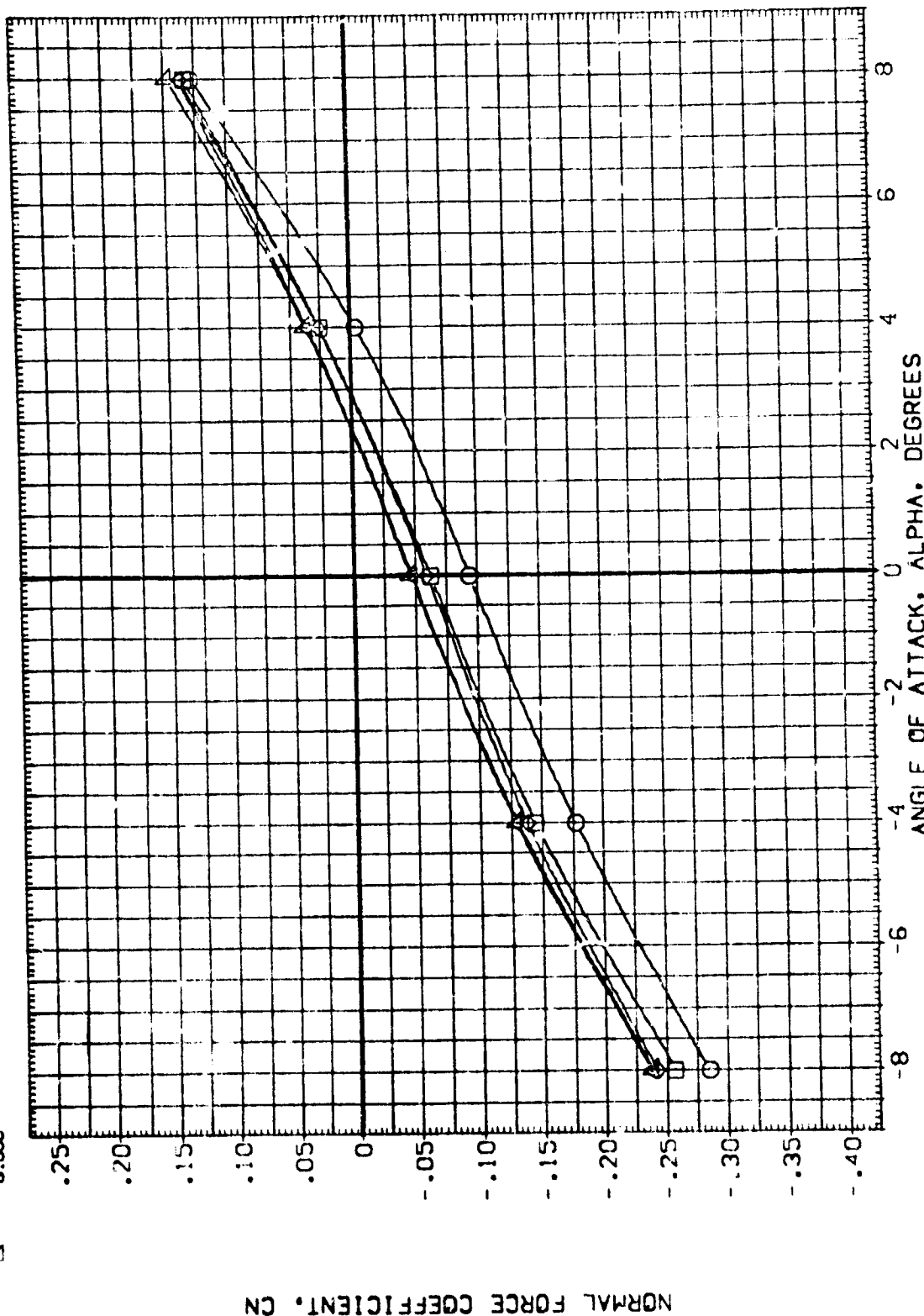


FIG. 22 LV (01 T12 S12 N25) , MACH = 1.10 (TANK + SRM BALANCE)

SYMBOL
 ▽ ◊ ◻ ○

BETA
 -8.000
 -4.000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 1.101 ELEVON
 .000 SPOBRK

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

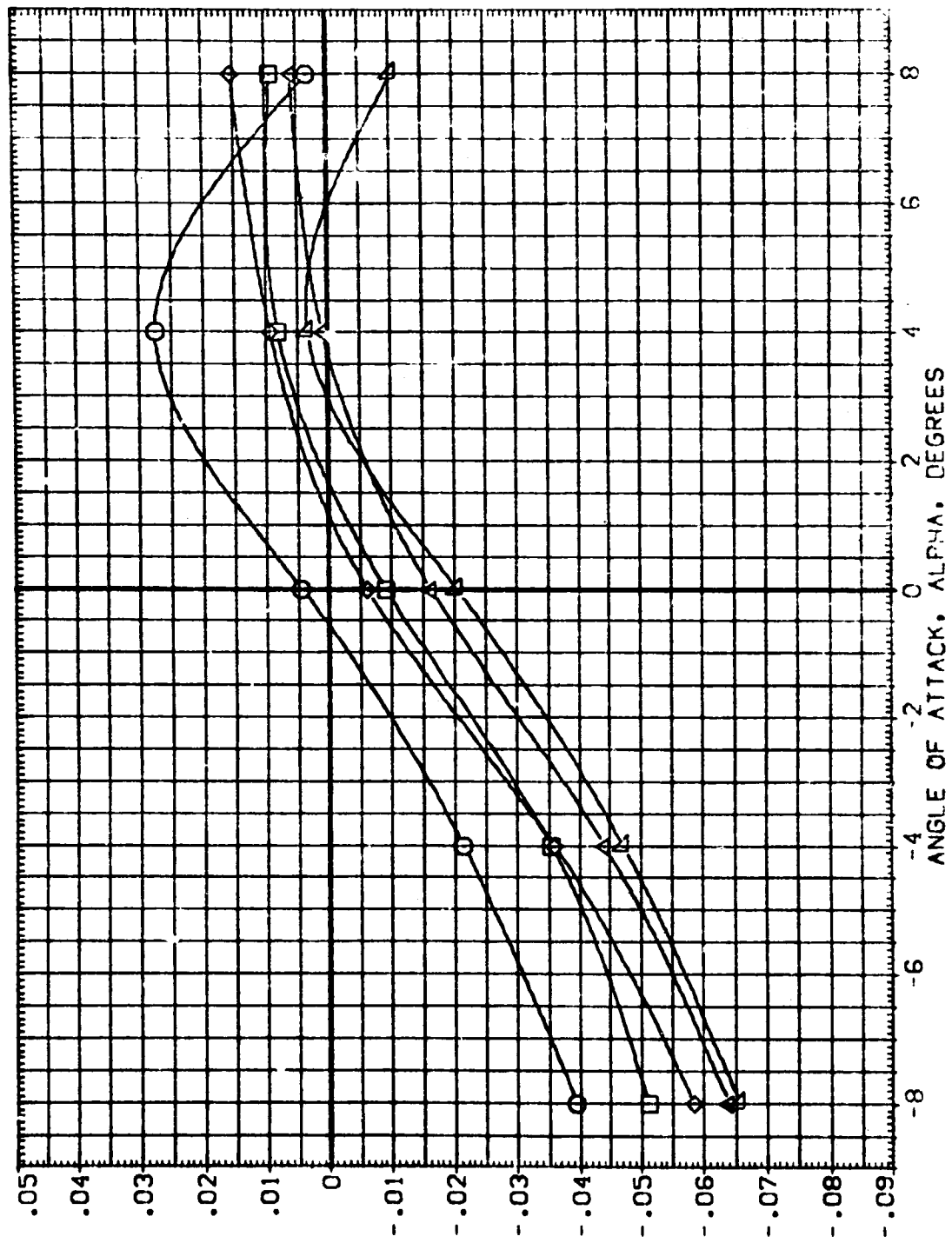


FIG. 22 LV (01 T12 S12 N25) • MACH = 1.10 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1148)

SYMBOL
 ○ □ ◇ △ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 1.101
 .000
 .000
 .000
 .000

ELEVON
 SPDRM

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7080
 BREF 38.7080
 XMRP .0000
 YMRP .0000
 ZMRP 9.9500
 SCALE .0300

SO.FT.
 11.11
 11.11
 11.11
 11.11

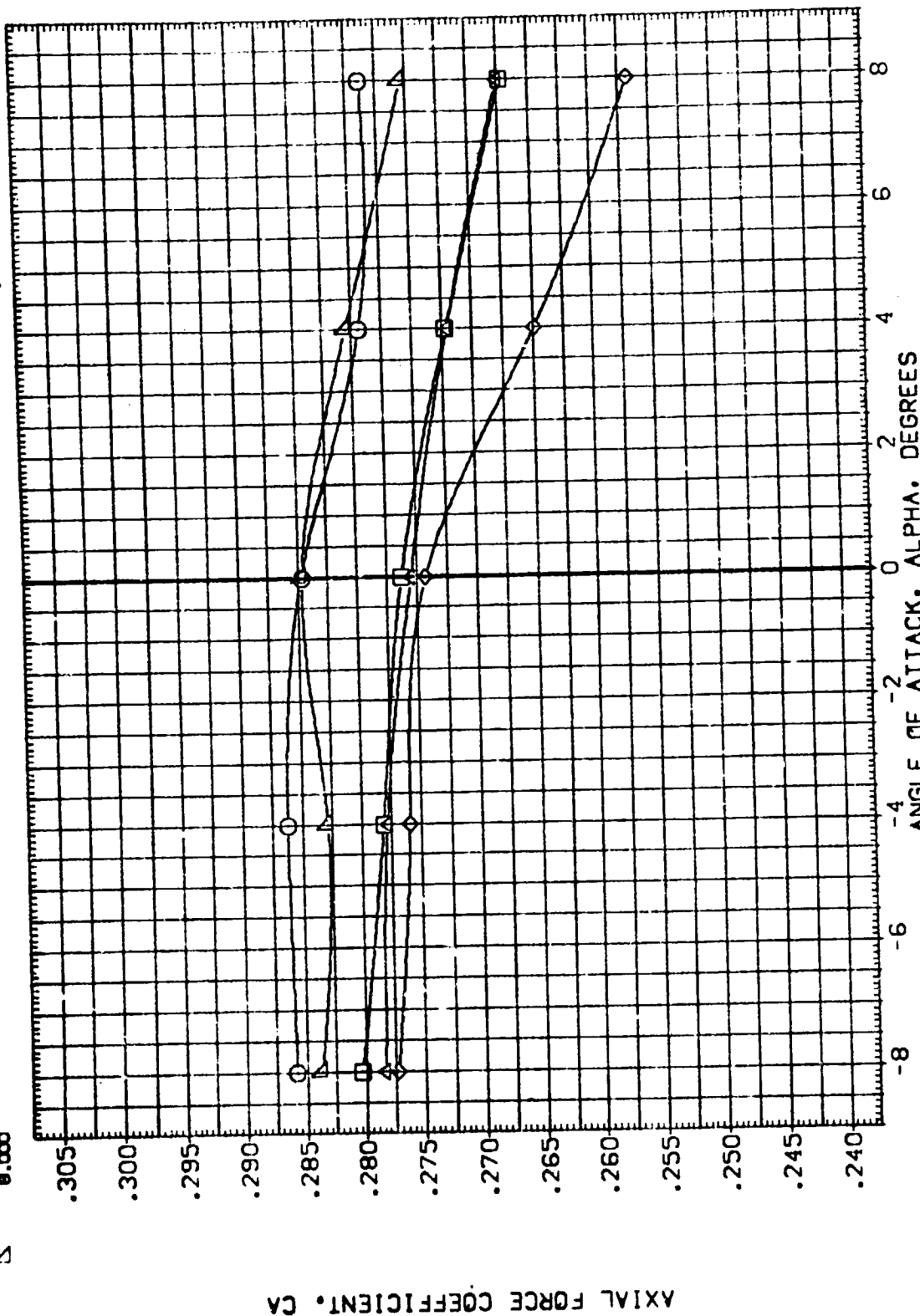


FIG. 22 LV (01 T12 S12 N25) , MACH = 1.10 (TANK + SRM BALANCE)

SYMBOL
 ▽ ◊ ◻ ◼ ◽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 1.101 ELEVON .000
 .000 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

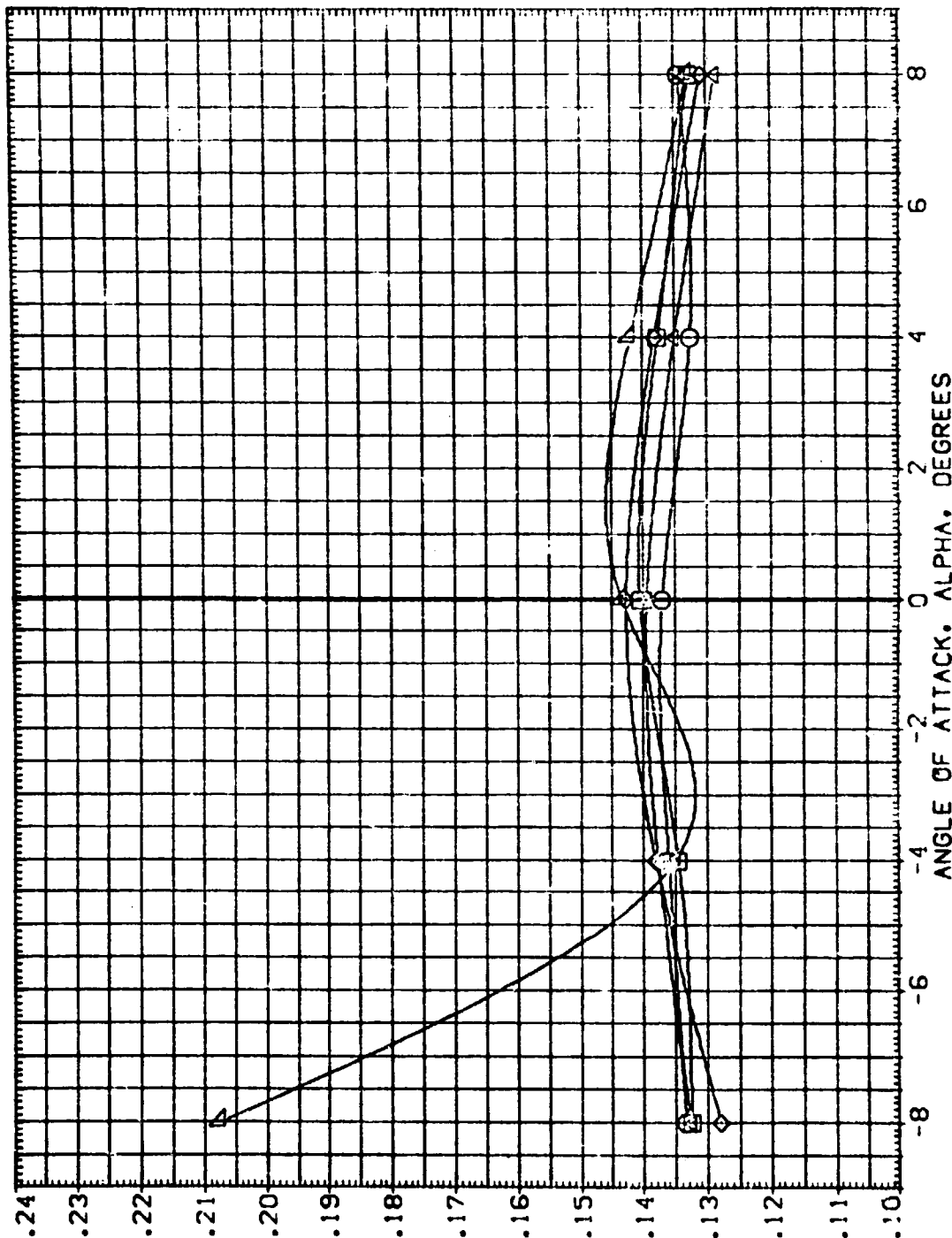


FIG. 22 LV (01 T12 S12 N25) , MACH = 1.10 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1148)

REFERENCE INFORMATION
 SREF 2.1210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.5900 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000 MACH 1.101 ELEVON .000
 -4.000 RUDDER .000 SPDBRK .000
 .000
 4.000
 8.000

SYMBOL
 ○ □ ◇ △ ▽

SIDE FORCE COEFFICIENT, CY

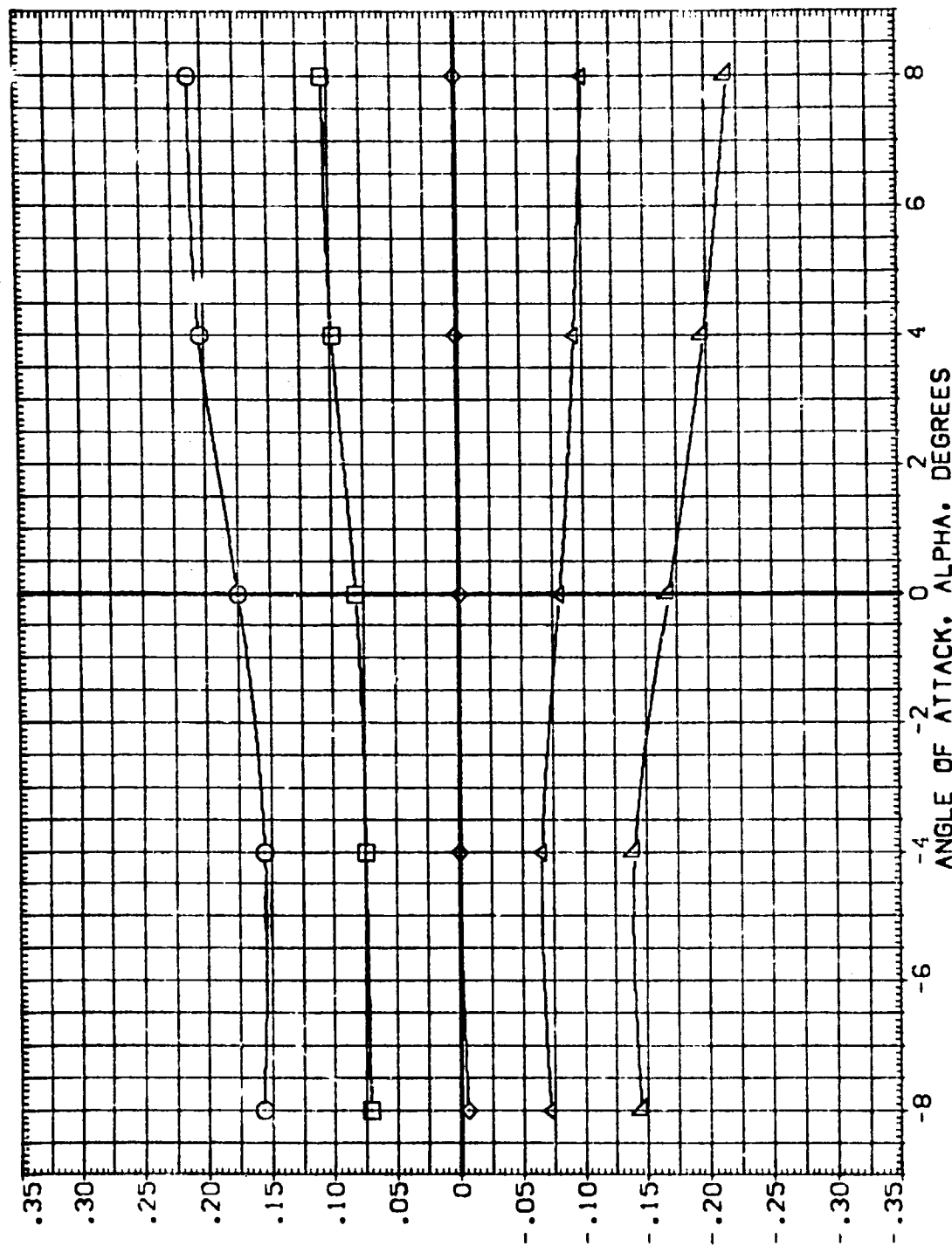


FIG. 22 LV (01 T12 S12 N25) • MACH = 1.10 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1148)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 1.101 ELEVON
 .000 SPDRK
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7030
 BREF 38.7030
 XMRP .0000
 YMRP .0000
 ZMRP 9.9800
 SCALE .0300

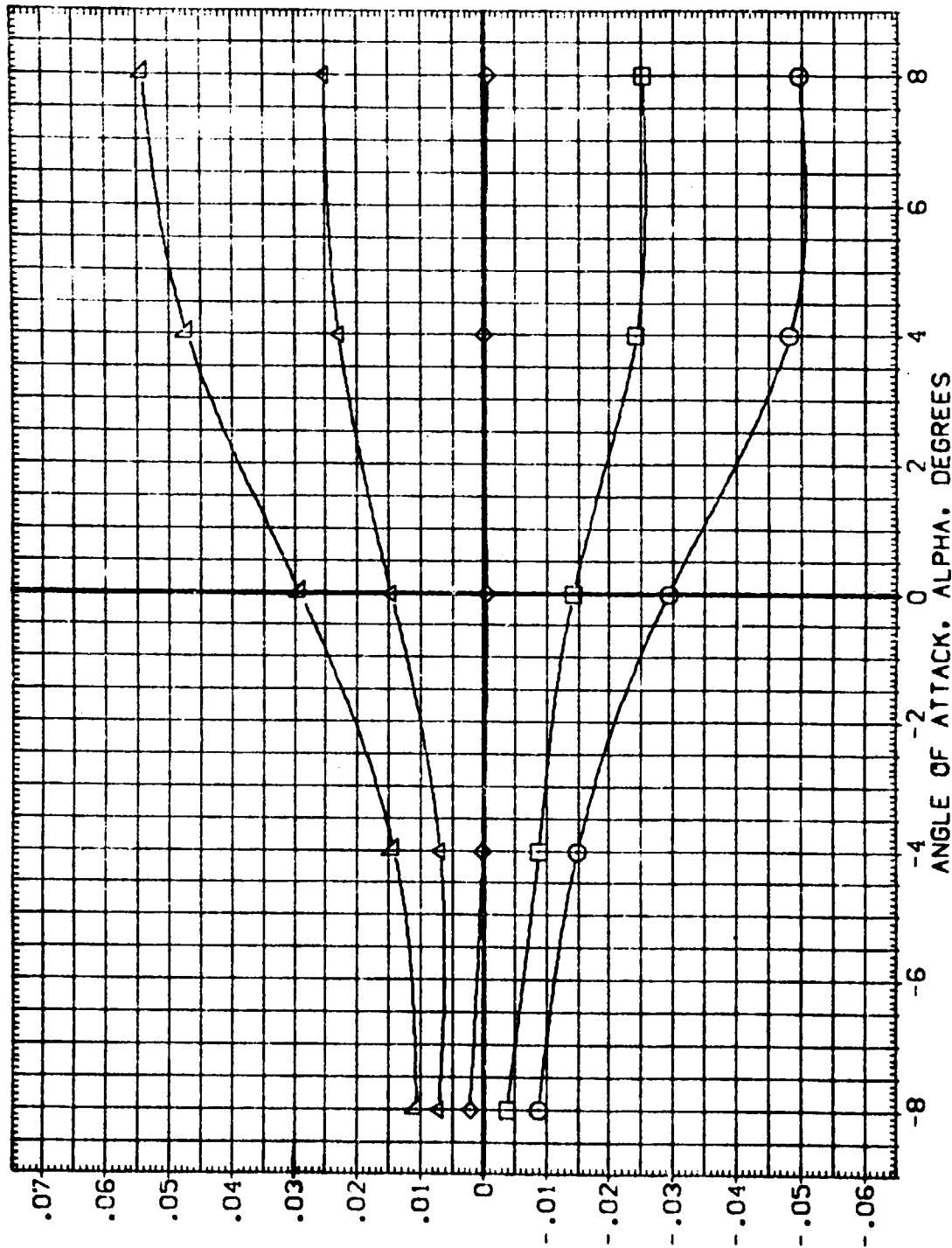


FIG. 22 LV (01 T12 S12 N25) , MACH = 1.10 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1148)

SYMBOL	BETA	MACH	PARAMETRIC VALUES		REFERENCE INFORMATION	
			1.101	ELEVON	SREF	SG.FT.
○	-8.000	RUDDER	.000	.000	LREF	38.7090
□	-4.000				BREF	38.7090
◇	.000				XMRP	.0000
△	4.000				YMRP	.0000
▽	8.000				ZMRP	9.9900
					SCALE	.0300

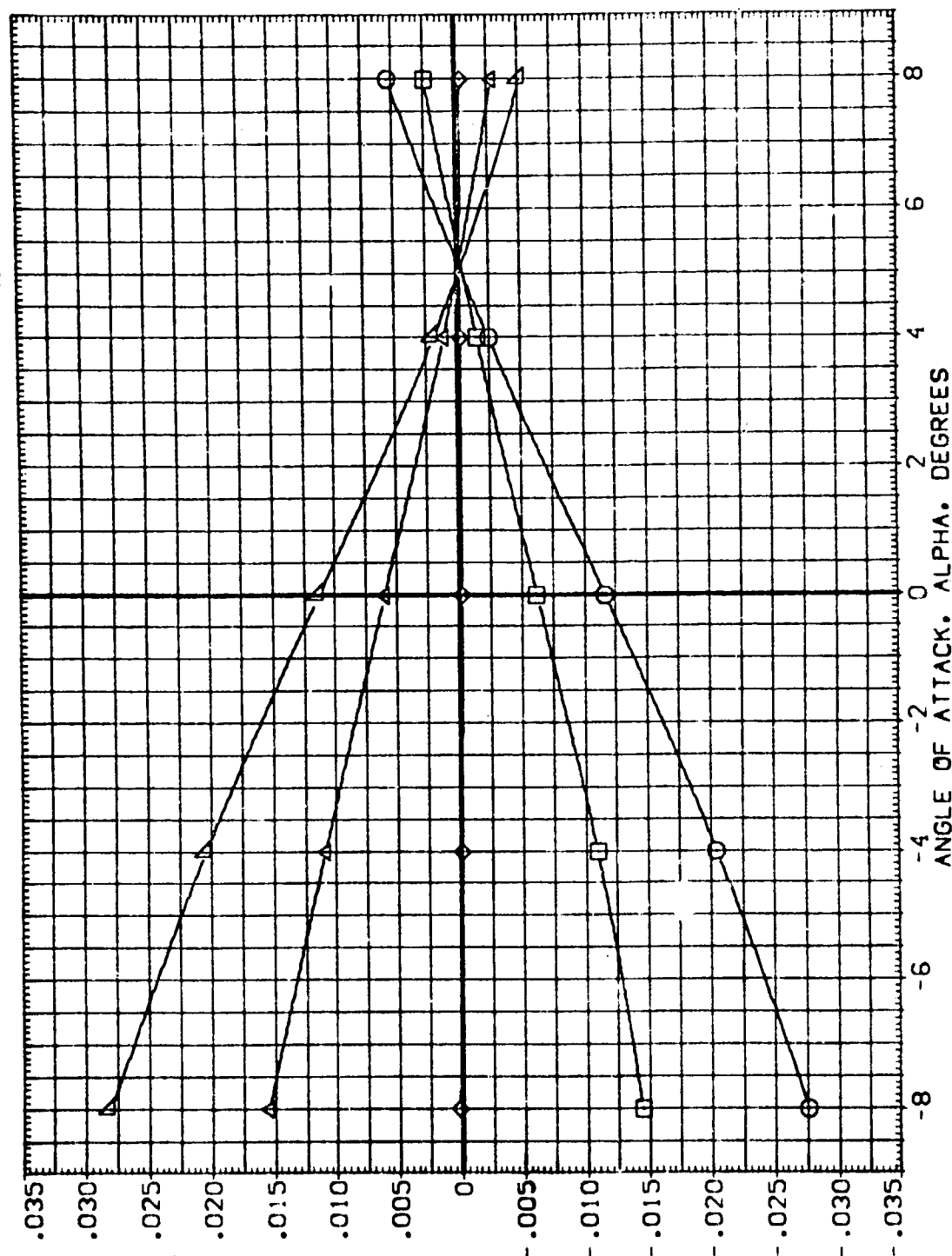


FIG. 22 LV (01 T12 S12 N25) , MACH = 1.10 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1149)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.150
 RUDDER .000
 ELEVON .000
 SPEEDK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

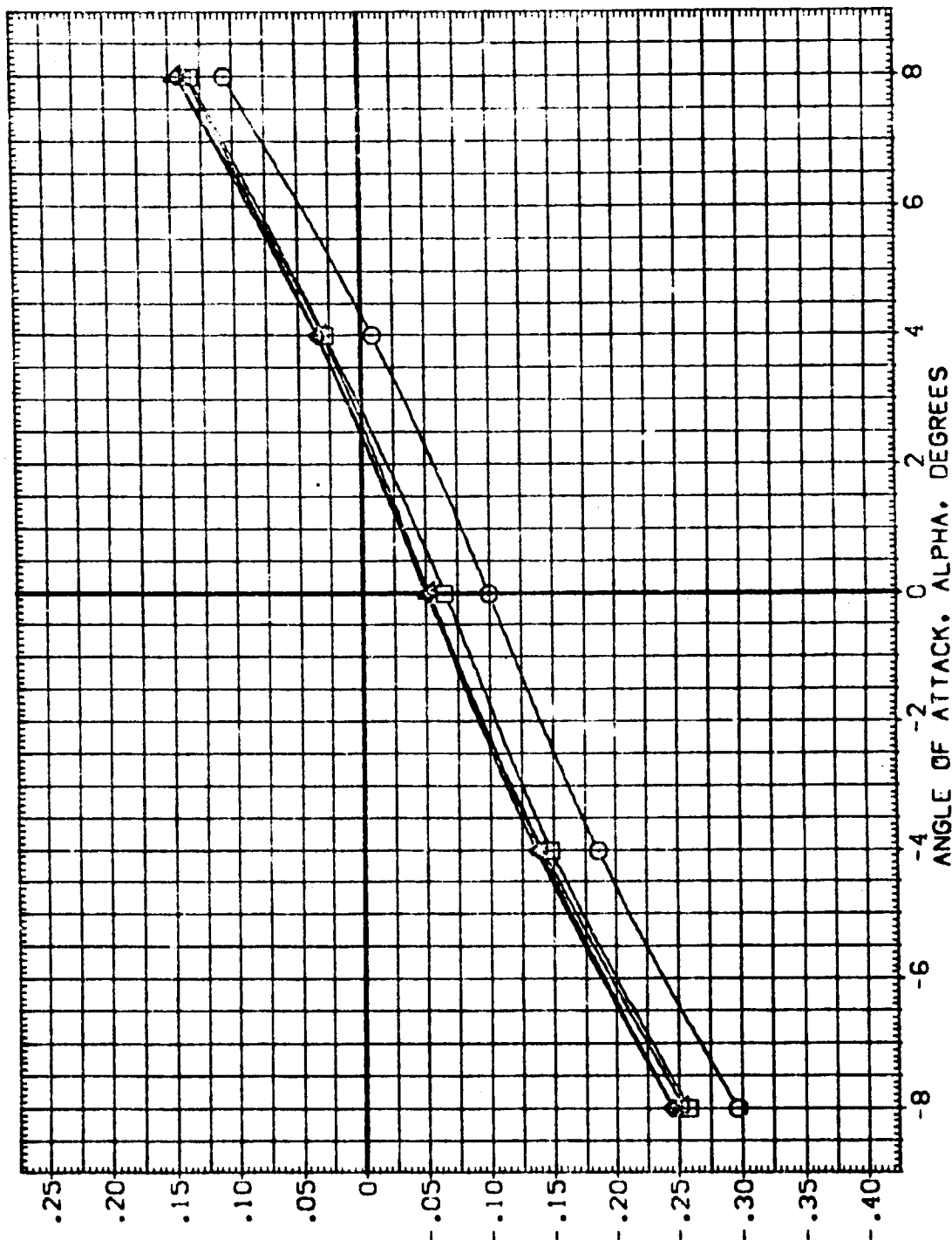


FIG. 23 LV (01 T12 S12 N25) • MACH = 1.15 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1149)

SYMBOL
 ▽ □ ◇ ◆

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.150
 ELEVON .000
 RUDDER .000
 SPEED .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.5900 IN.
 SCALE .0300

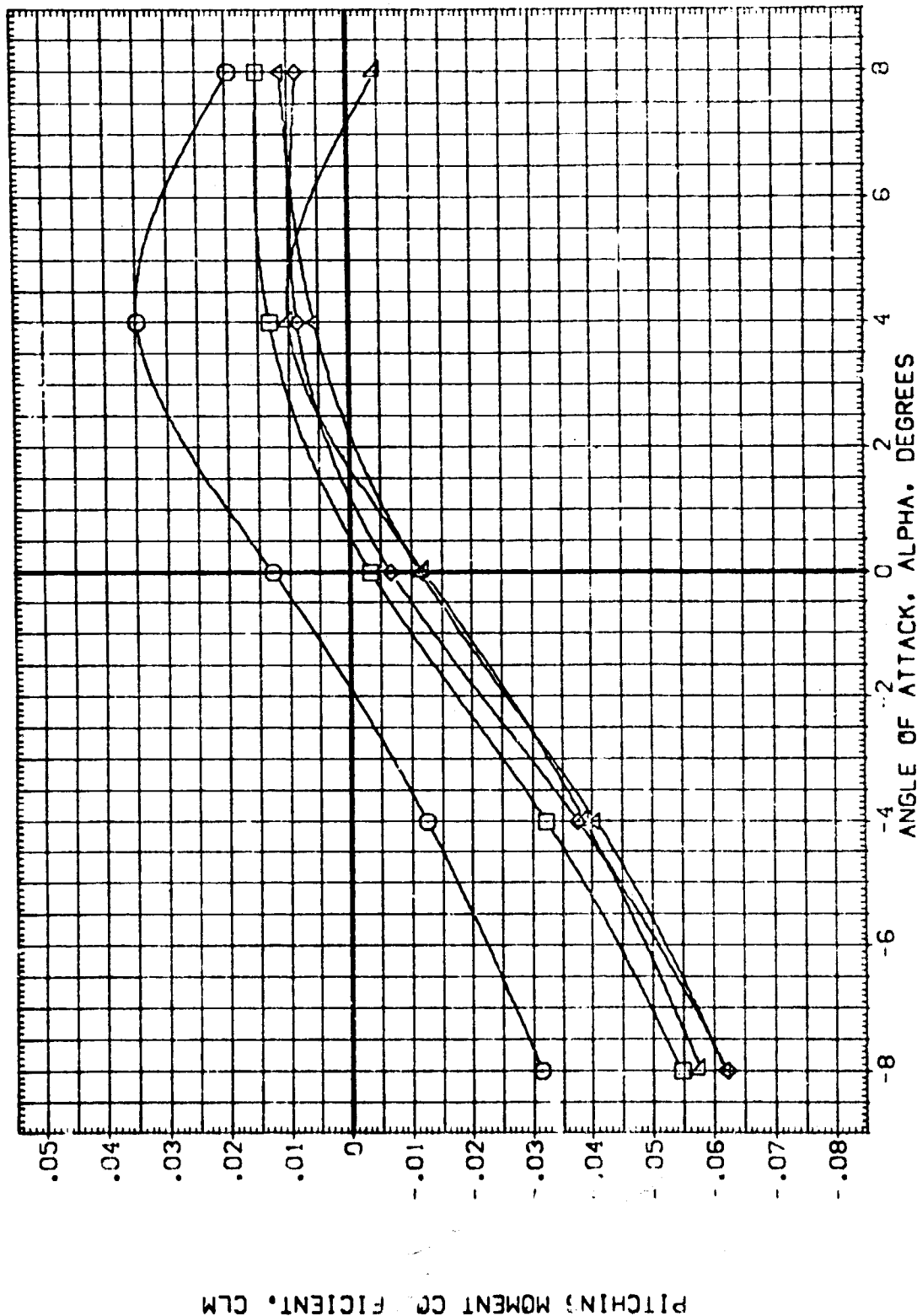


FIG. 23 LV (01 T12 S12 N25) • MACH = 1.15 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+112+S12N25 (TANK+SRM) (1B1149)

SYMBOL
 ○ □ ◇ △ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 1.150 ELEVON .000
 .000 SPOILER

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

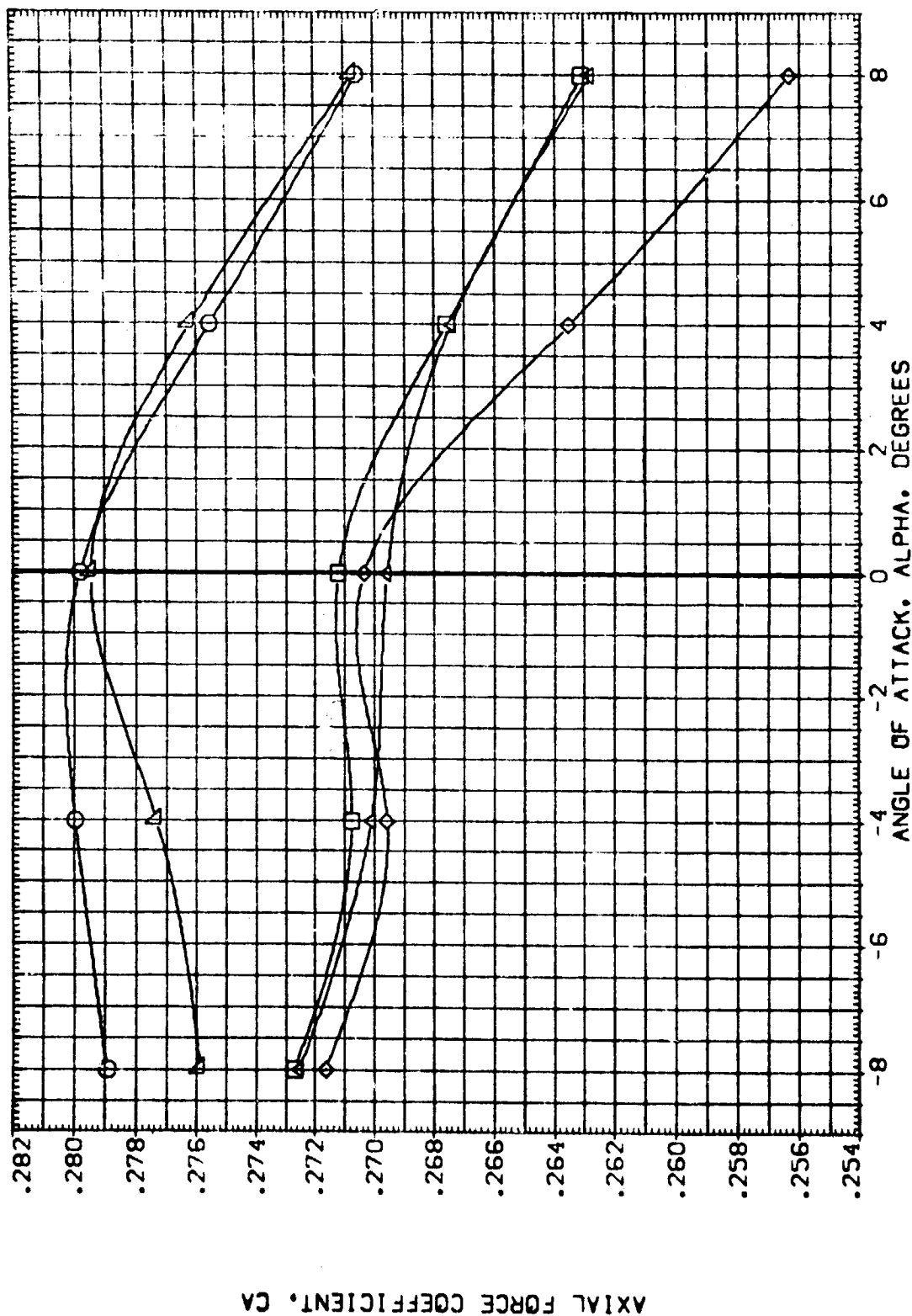


FIG. 23 LV (01 112 S12 N25) • MACH = 1.15 (TANK + SRM BALANCE)

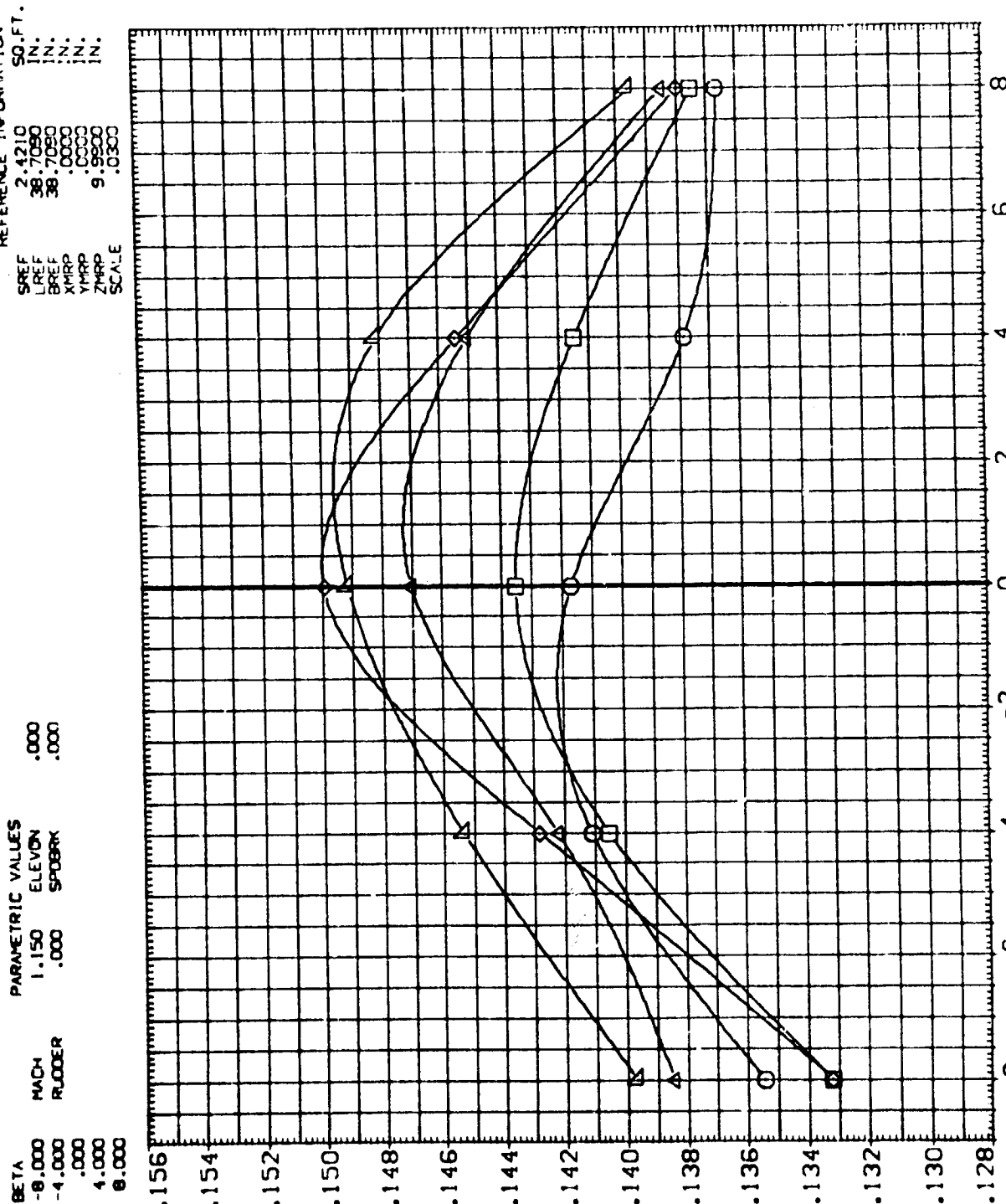
AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1149)

SYMBOL
 ▽
 ◇
 ○
 □
 △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.150
 RUDDER .000
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7050
 BREF 38.7050
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300



FOREBODY AXIAL FORCE COEFFICIENT, CAF

ANGLE OF ATTACK, ALPHA, DEGREES

FIG. 23 LV (01 T12 S12 N25) • MACH = 1.15 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1149)

SYMBOL
 ▽
 ◇
 □
 ○

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.150
 FLUDER .000
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7050
 BREF 38.7050
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

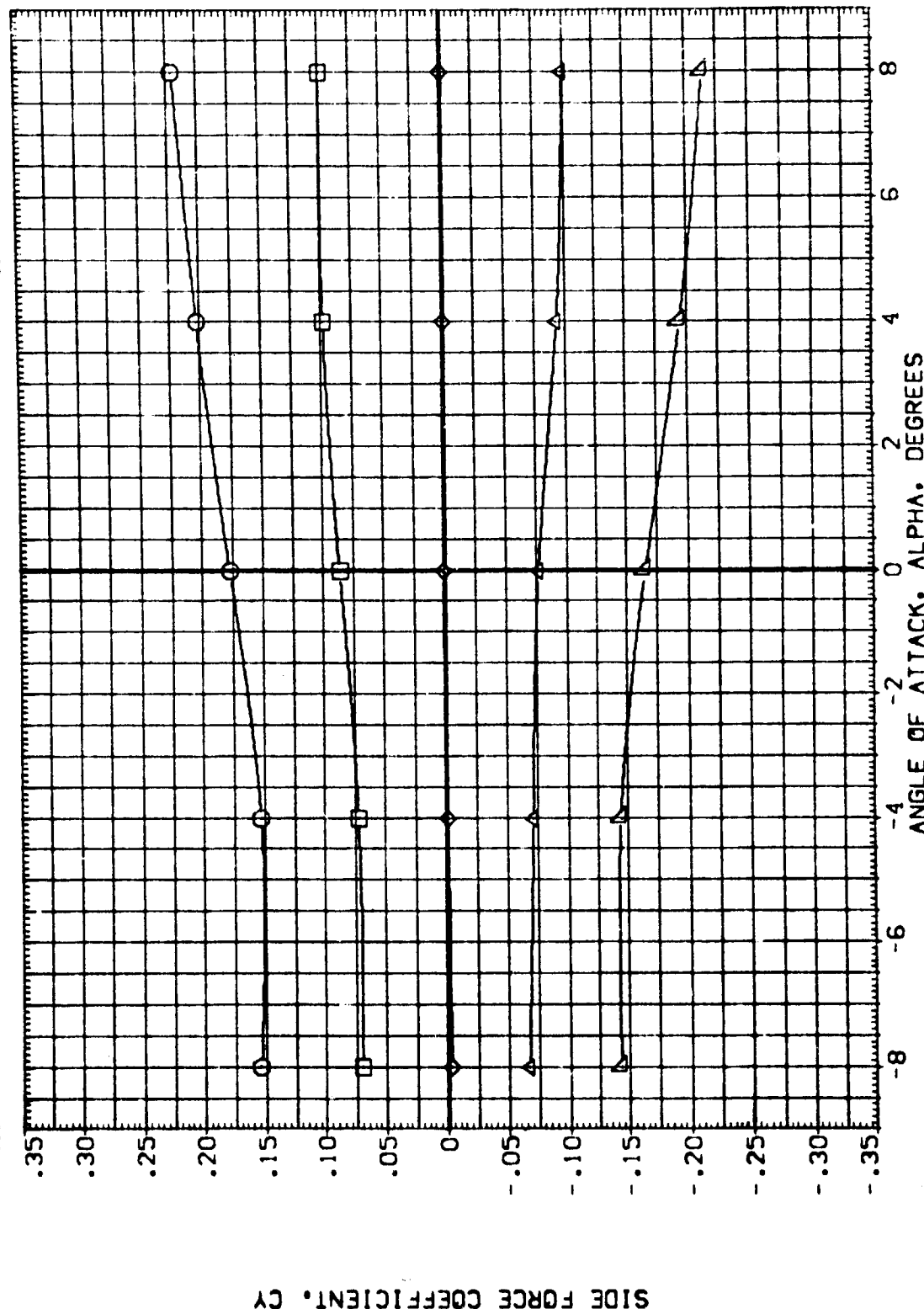


FIG. 23 LV (01 T12 S12 N25) • MACH = 1.15 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1149)

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000 MACH 1.150 ELEVON .000
 -4.000 RUDDER .000 SPOBRK .000
 .000 .000 .000
 4.000 8.000

SYMBOL
 ○ □ ◇ △

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)

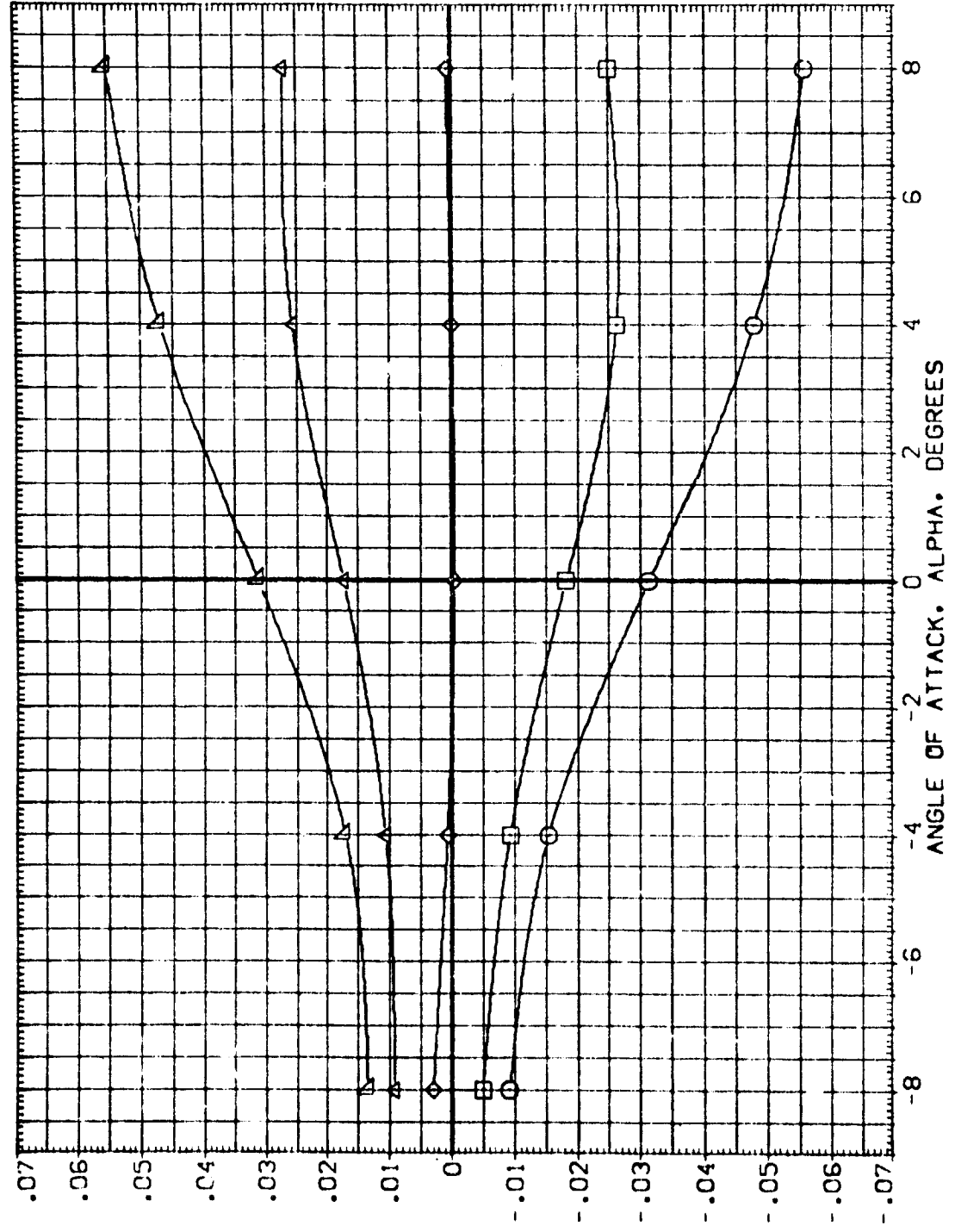


FIG. 23 LV (01 T12 S12 N25) • MACH = 1.15 (TANK + SRM BALANCE)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	BETA	MACH	ELEVON	SREF	SC.FT.	
○	-9.000	FL000	.000	U.REF	2.4210	
□	-4.000		.000	G.REF	38.7090	
◇	.000			X.REF	38.7090	
△	4.000			Y.REF	.0000	
▽	9.000			Z.REF	.0000	
				YMRP	9.5900	
				ZMRP	.0300	
				SCALE		

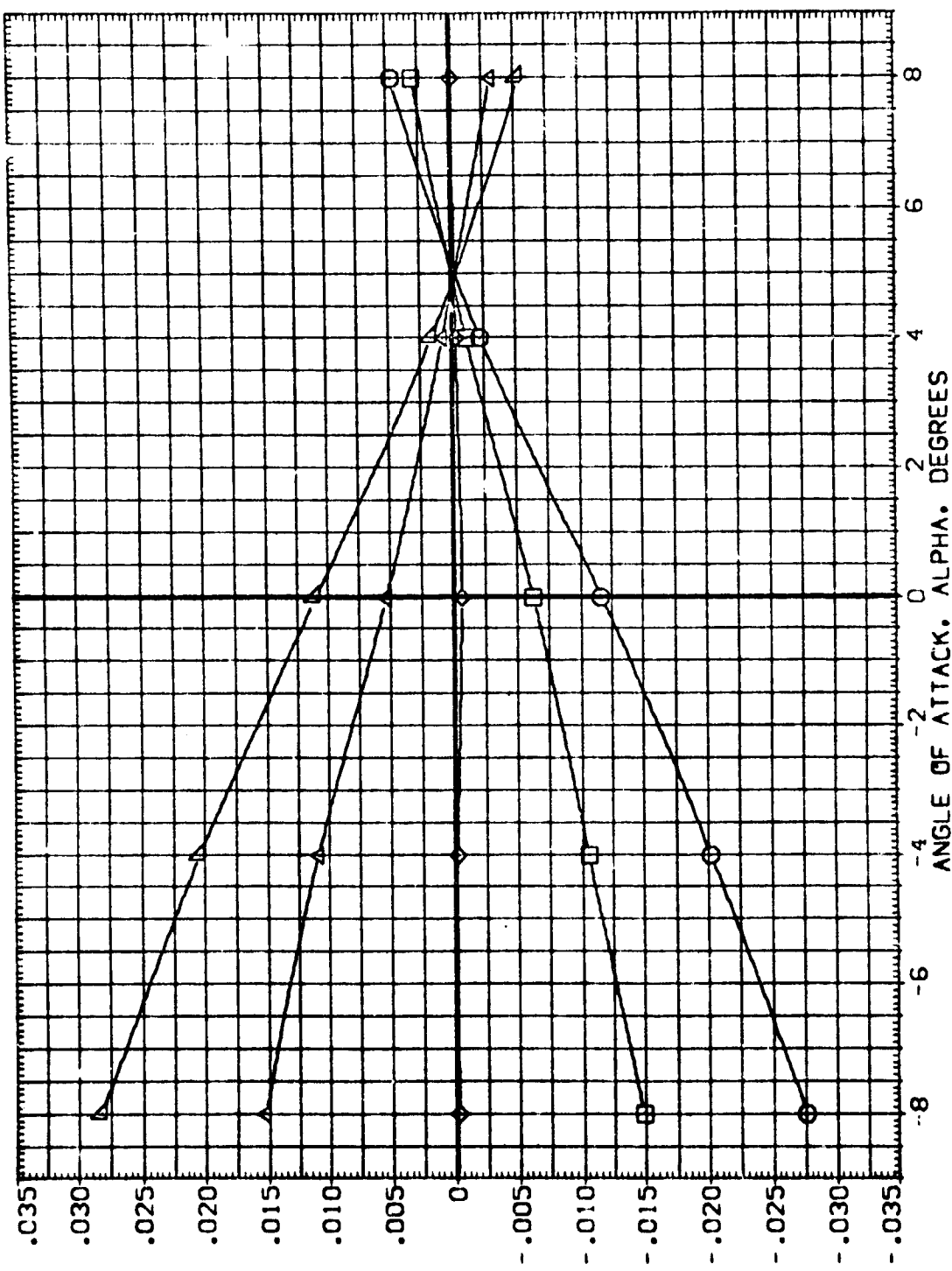


FIG. 23 LV (01 T12 S12 N25) • MACH = 1.15 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1150)

SYMBOL
 ○ □ ◇ △ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.247
 RUDDER .000
 ELEVON 5708AK
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

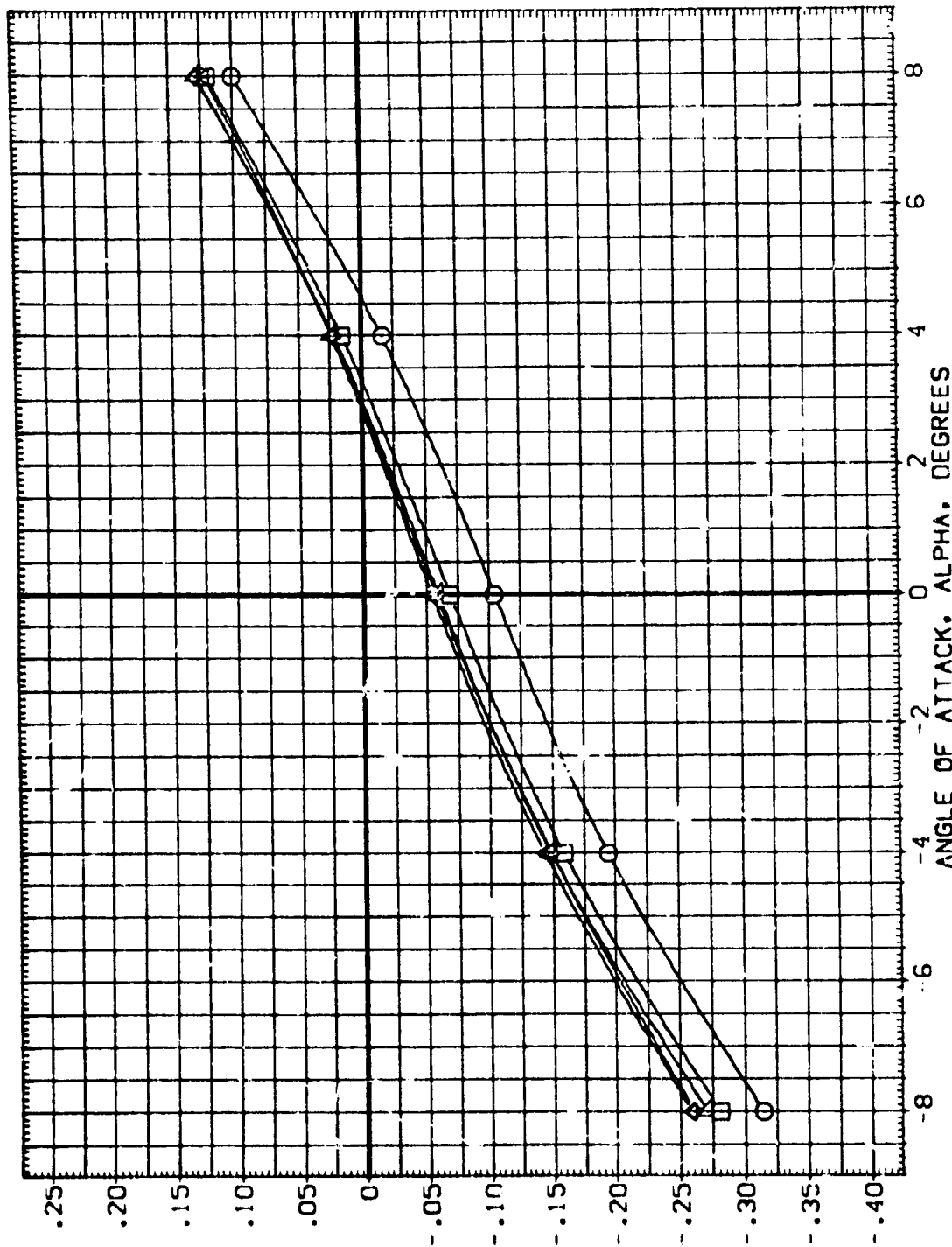


FIG. 24 LV (01 T12 S12 N25) • MACH = 1.25 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1150)

SYMBOL
 2
 3
 4
 5
 6
 7
 8

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 1.247

RUDDER
 .000

PARAMETRIC VALUES
 ELEVON
 .000

SPOBRK
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

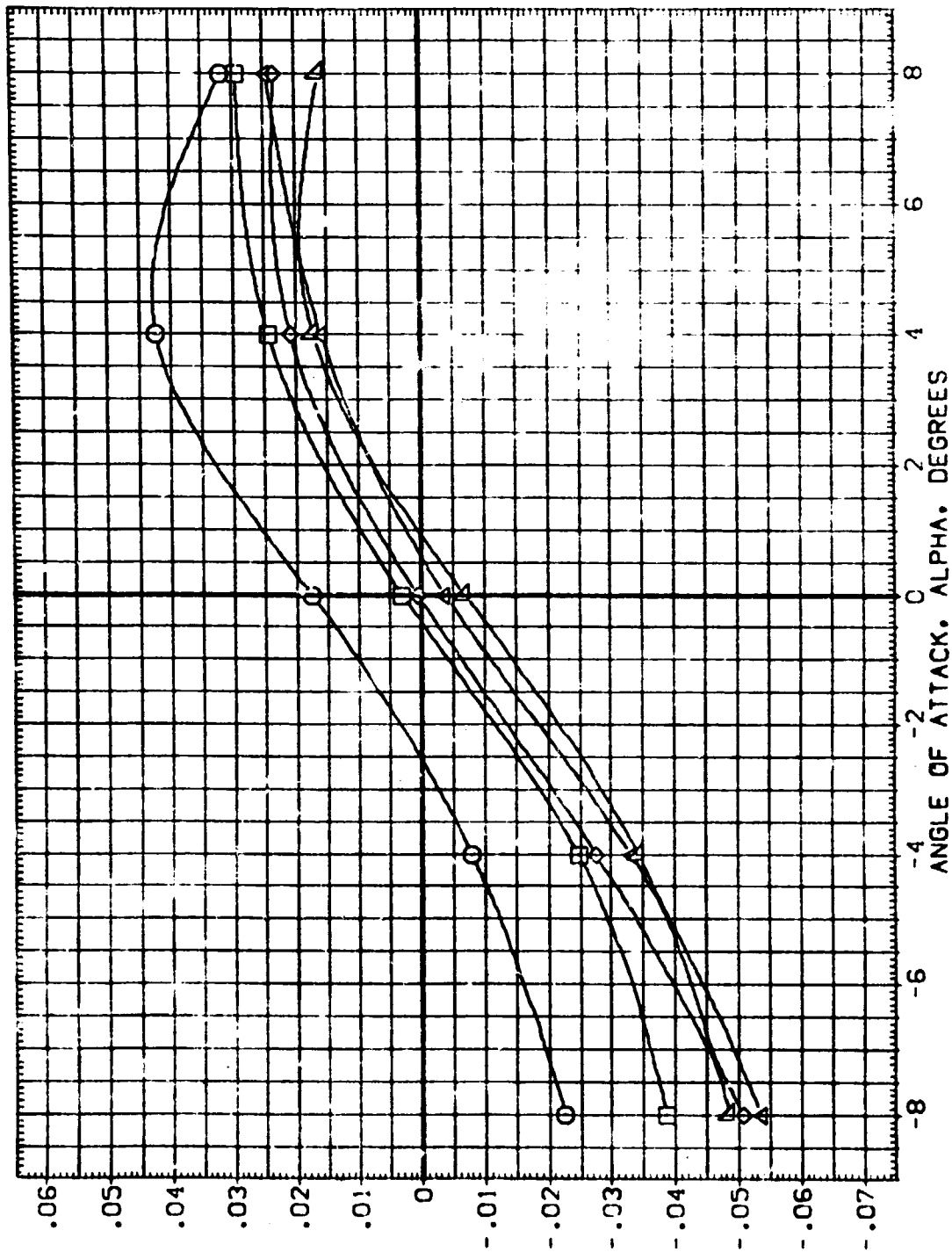


FIG. 24 LV (01 T12 S12 N25) , MACH = 1.25 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1150)

SYMBOL
▽ ◇ □ △

BETA
-8.000
-4.000
4.000
8.000

MACH
RUDDER

PARAMETRIC VALUES
1.247 ELEVON .000
.000 SPOBRK .000

REFERENCE INFORMATION
SREF 2.4210
LREF 38.7050
BREF 38.7050
XMRP .0000
YMRP .0000
ZMRP 9.9900
SCALE .0300

50.FT.
IN.
IN.
IN.
IN.

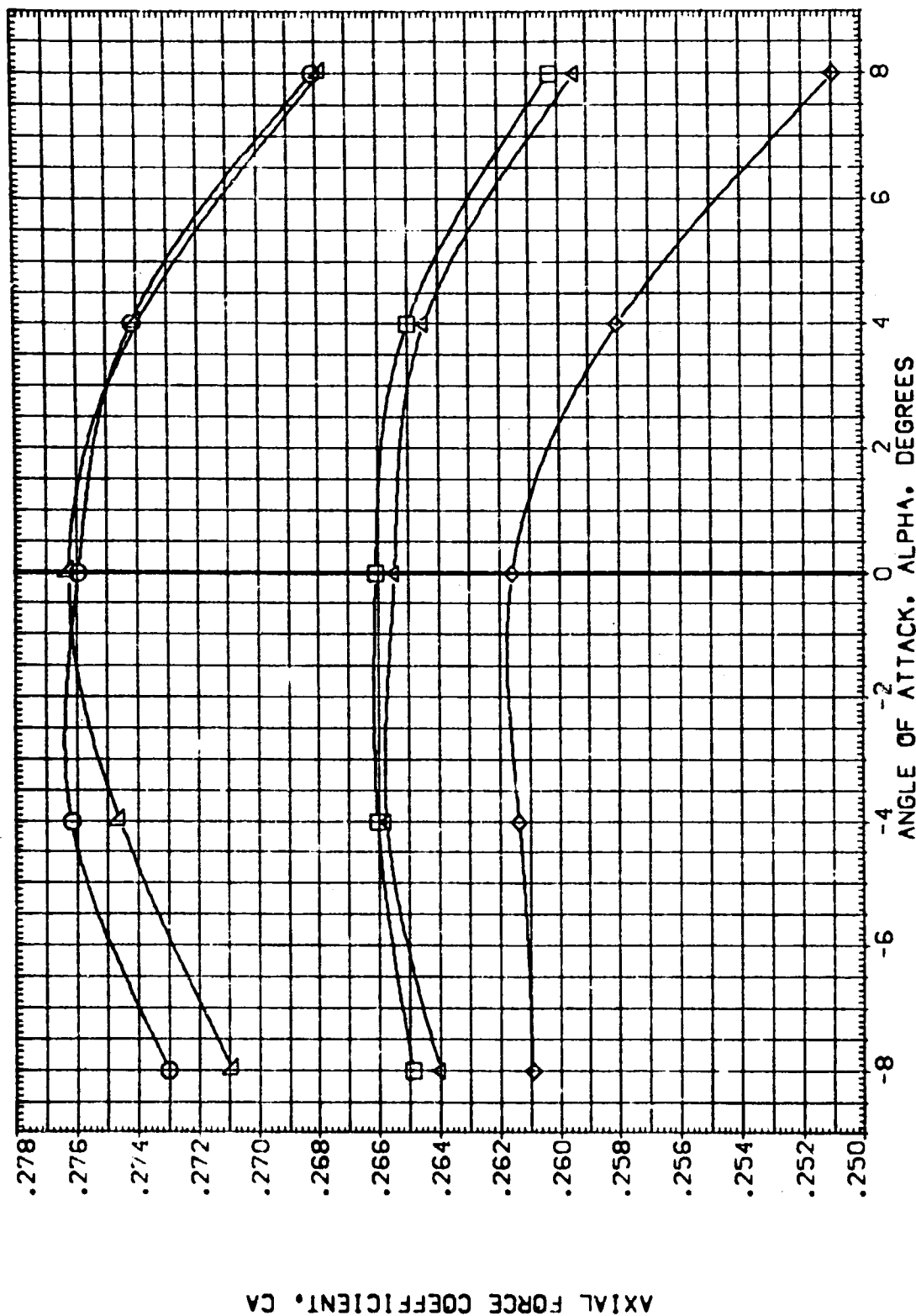


FIG. 24 LV (01 T12 S12 N25) • MACH = 1.25 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+112+S12N25 (TANK+SRM) (1B1150)

SYMBOL

BETA
-8.000
-4.000
.000
4.000
8.000

MACH
RUDDER
PARAMETRIC VALUES
1.247
.000
ELEVON
SPDRBK
.000
.000

REFERENCE INFORMATION
SREF 2.710
LREF 38.759C
XREF 38.759C
YMRD 0.0000
ZMRD 0.0000
SCALE 0.000

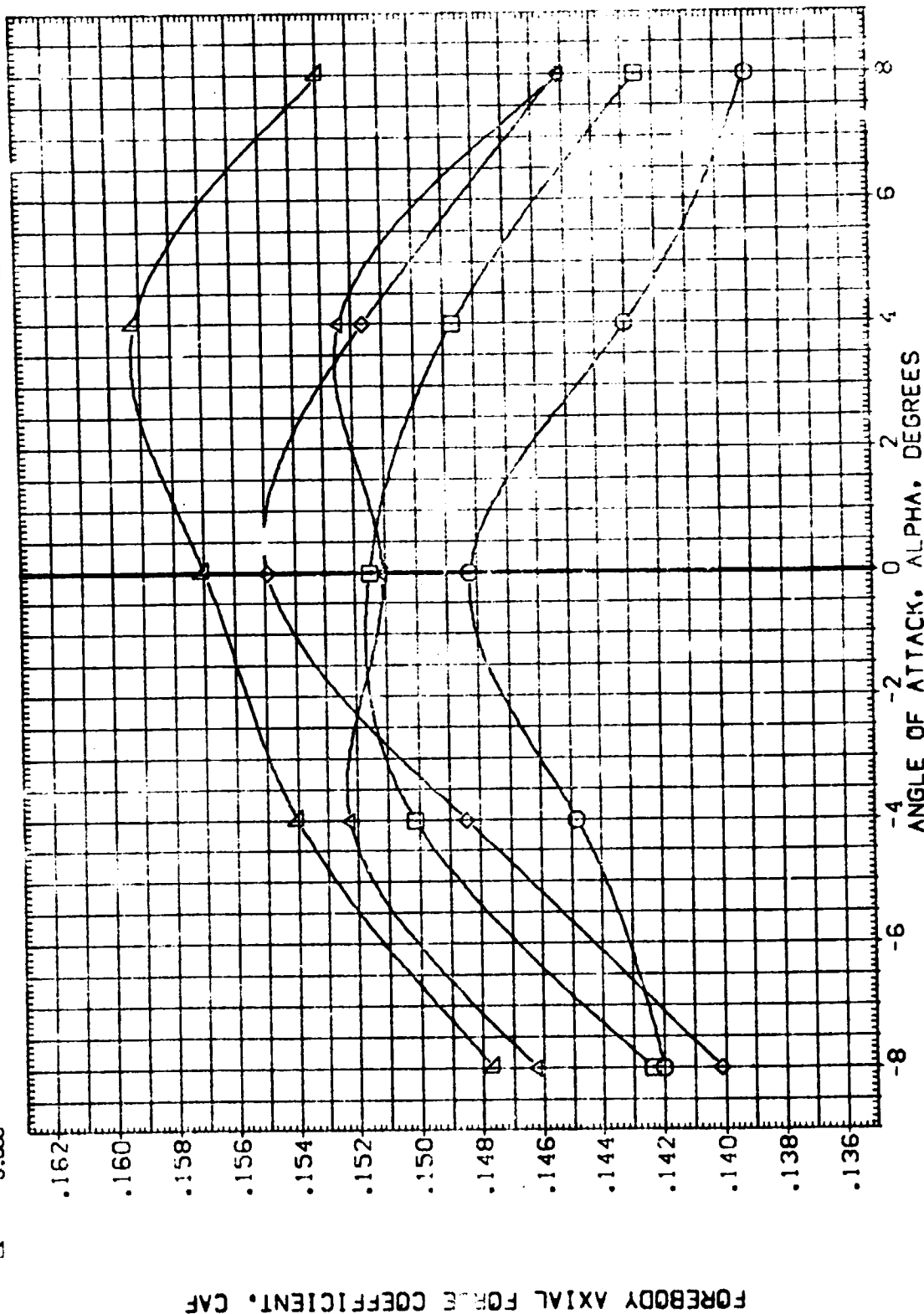


FIG. 24 LV (01 T12 S12 N25) • MACH = 1.25 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1150)

SYMBOL
○ □ ◇ △

BETA
-8.000
-4.000
.000
4.000
8.000

MACH
RUDDER

PARAMETRIC VALUES
1.247 ELEVON
.000 SPDRK

REFERENCE INFORMATION
SREF 2.4210
LREF 38.7050
BREF 38.7050
XMRP .0000
YMRP .0000
ZMRP 9.8800
SCALE .0300

50.FT.
IN.
IN.
IN.
IN.

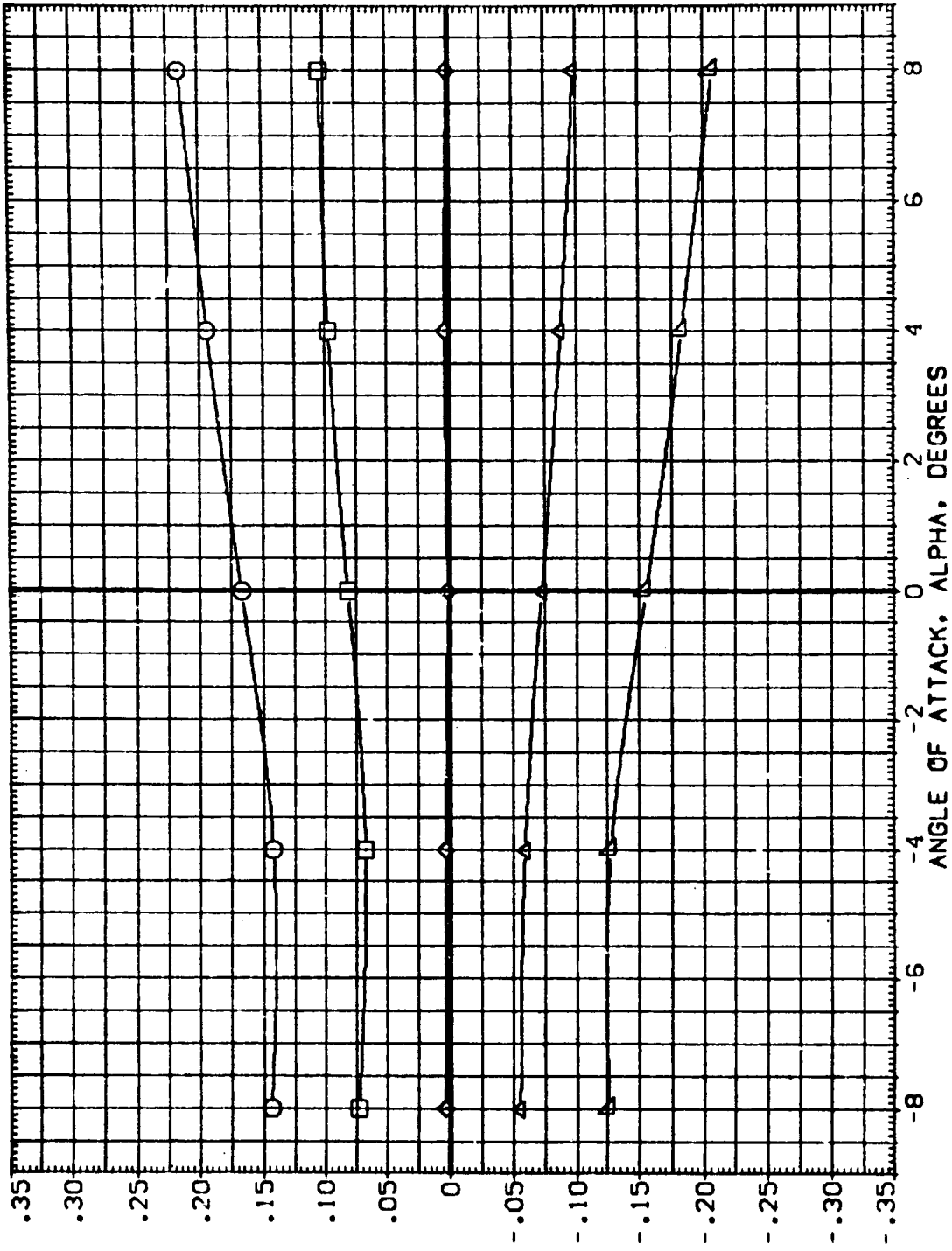


FIG. 24 LV (01 T12 S12 N25) , MACH = 1.25 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1150)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 1.247
 .000
 .000
 ELEVON
 SPOBRK

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7050
 BREF 38.7050
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300
 SQ.FT.
 IN.
 IN.
 IN.
 IN.

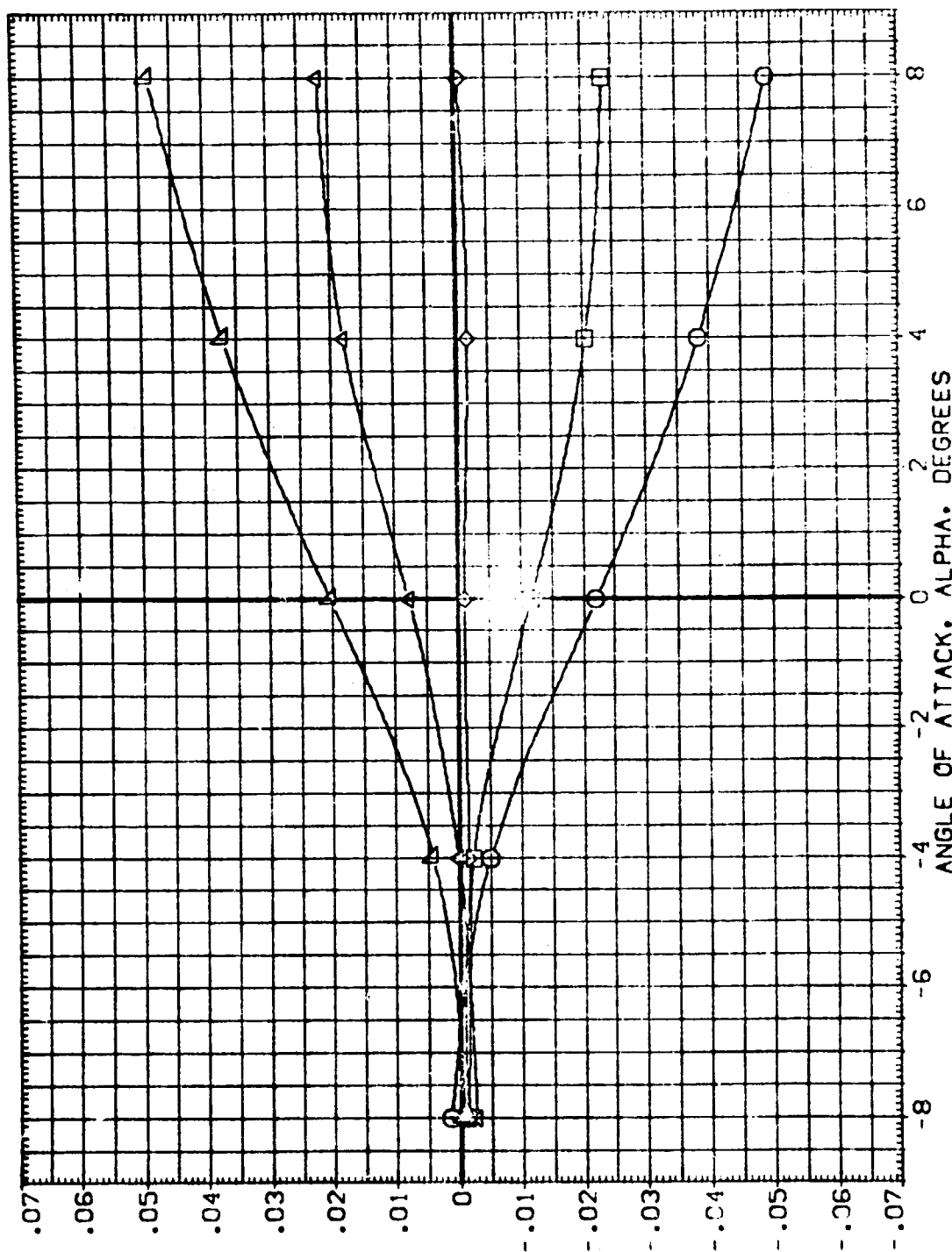


FIG. 24 LV (01 T12 S12 N25) , MACH = 1.25 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+112+S12N25 (TANK+SRM) (1B1150)

SYMBOL	BETA	PARAMETRIC VALUES		REFERENCE INFORMATION	
		MACH	ELEVON	SREF	SO.FT.
▽	-8.000	1.247	.000	38.7090	IN.
◇	-4.000	.000	.000	38.7090	IN.
□	.000	.000	.000	38.7090	IN.
△	4.000	.000	.000	38.7090	IN.
▽	8.000	.000	.000	38.7090	IN.
				9.9900	IN.
				9.9900	IN.
				.0300	SCALE

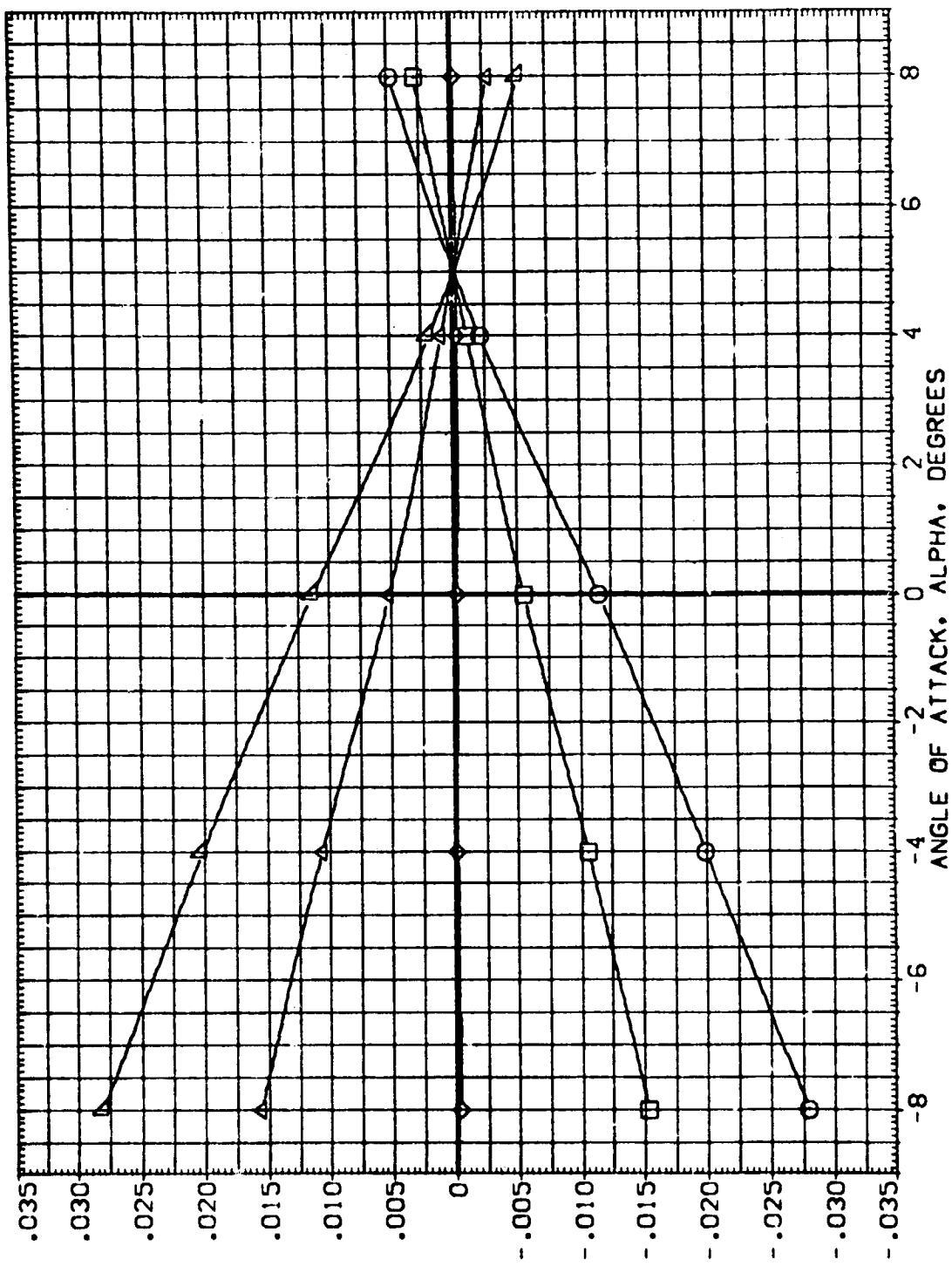


FIG. 24 LV (01 112 S12 N25) , MACH = 1.25 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1151)

SYMBOL
 ▽
 △
 ◇
 □
 ○

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 1.356 ELEVON
 .000 SPOBRK

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ. FT.
 LREF 38.7080 IN.
 BREF 38.7080 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

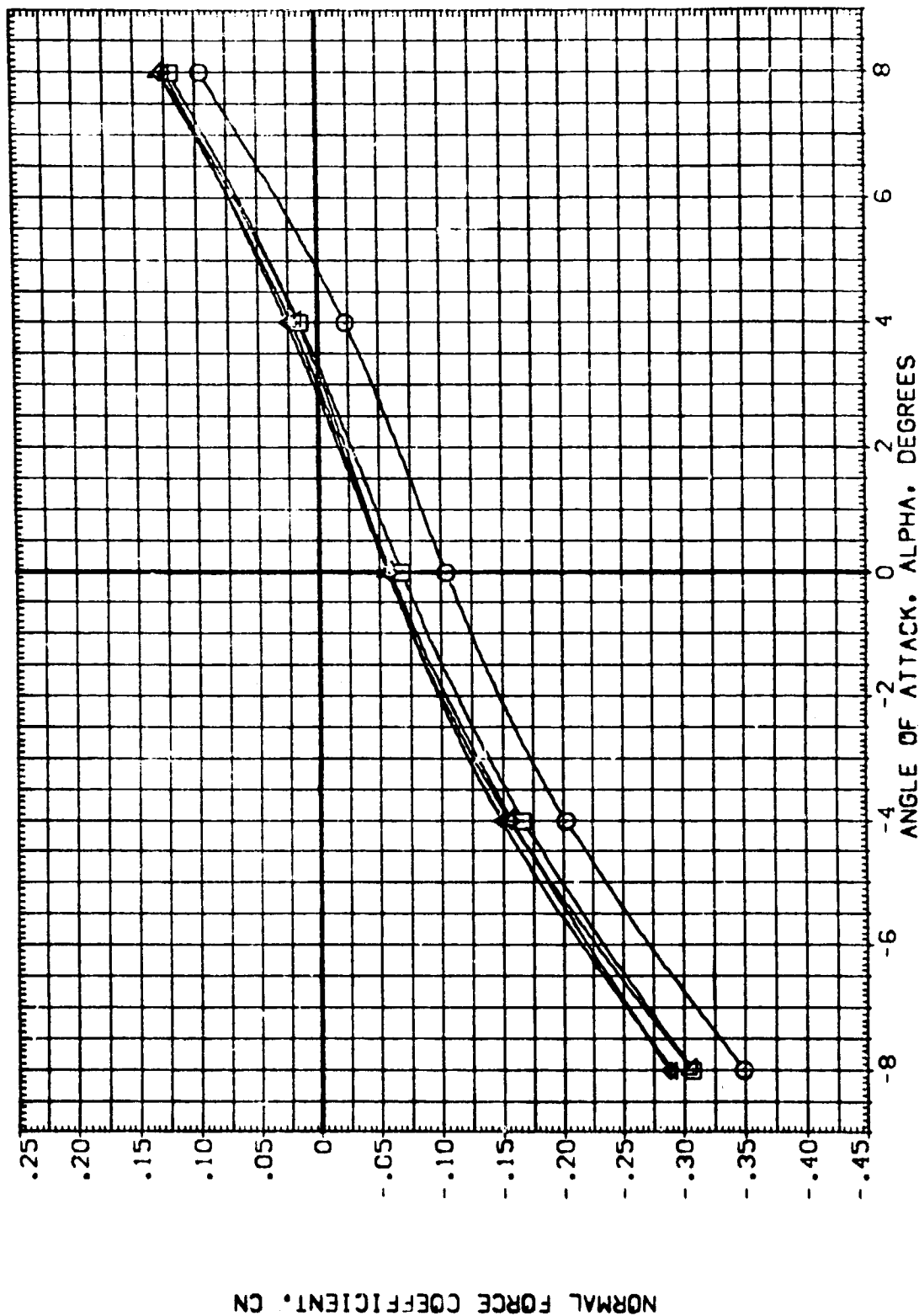


FIG. 25 LV (01 T12 S12 N25) • MACH = 1.40 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1151)

SYMBOL
 ○
 ◇
 △
 □

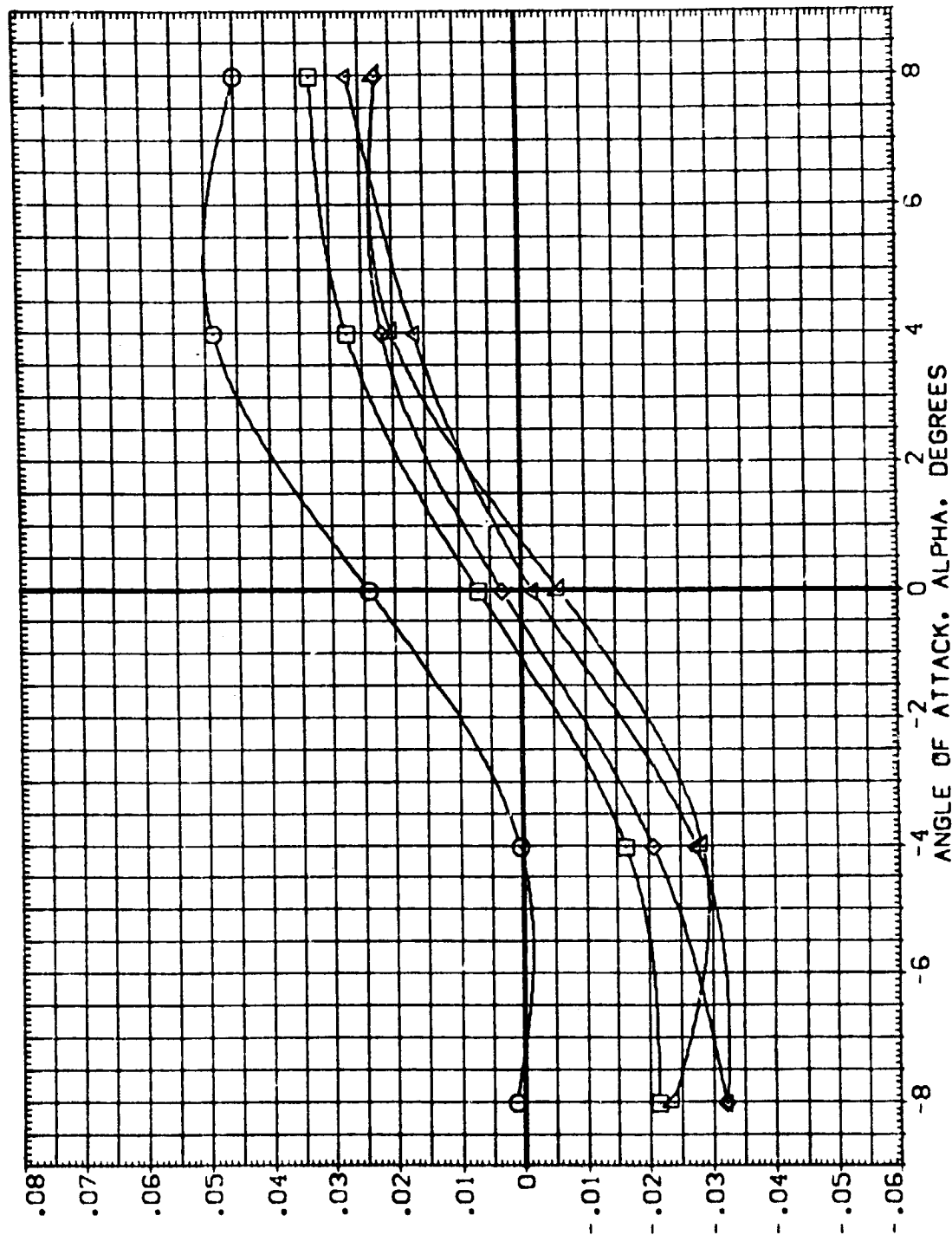
BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 1.356
 .000
 .000
 .000
 .000

ELEVON
 .000
 .000
 .000
 .000
 .000

SPDRK
 .000
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210 50.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300



PITCHING MOMENT COEFFICIENT, C_m

FIG. 25 LV (01 T12 S12 N25) • MACH = 1.40 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (IB1151)

SYMBOL

BETA
-8.000
-4.000
.000
4.000
8.000

MACH
RUDDER
PARAMETRIC VALUES
1.396
.000
ELEVON
SPDRK
.000
.000

REFERENCE INFORMATION
SREF 2.4210
LREF 38.7090
BREF 38.7090
XMRP .0000
YMRP .0000
ZMRP 9.9900
SCALE .0300

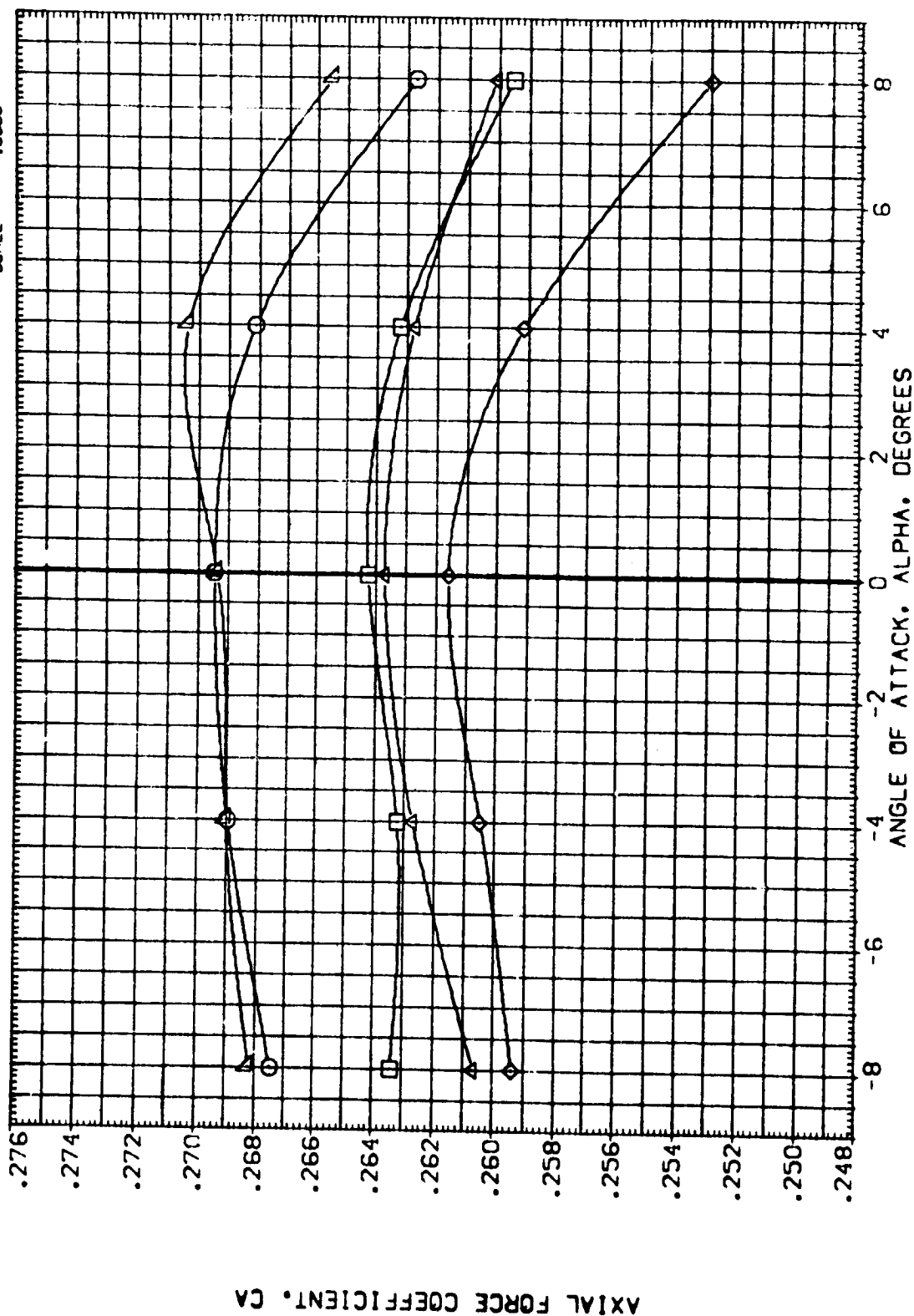


FIG. 25 LV (01 T12 S12 N25) • MACH = 1.40 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (1B1151)

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.709C IN.
 BREF 38.709C IN.
 XMRP .000C IN.
 YMRP .000C IN.
 ZMRP 9.990C IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000 MACH .000
 -4.000 RUDDER .000
 .000
 4.000
 8.000

SYMBOL
 ▽
 ◇
 □
 ○
 △

FOREBODY AXIAL FORCE COEFFICIENT, CAF

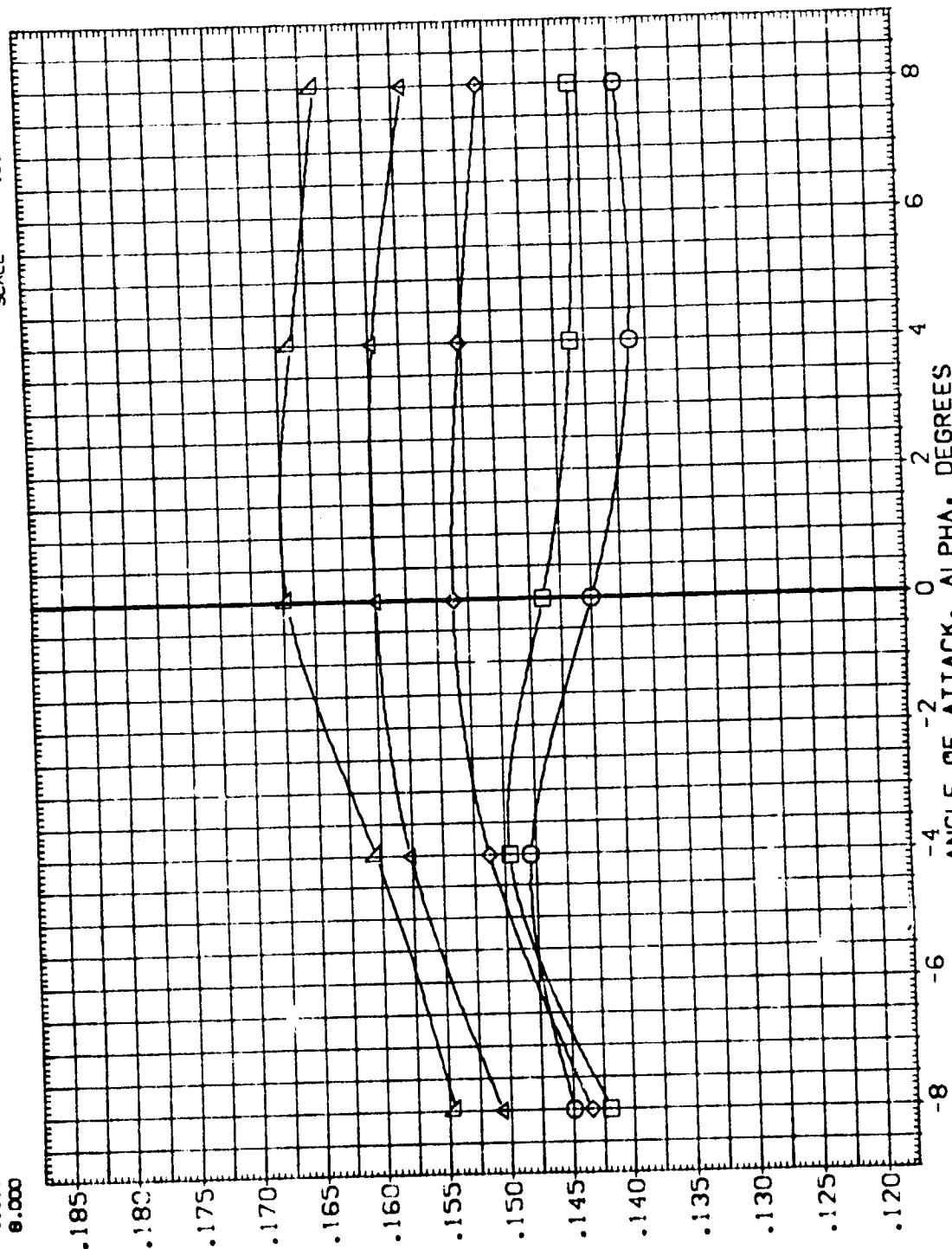


FIG. 25 LV (01 T12 S12 N25) , MACH = 1.40 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12N25 (TANK+SRM) (181151)

SYMBOL
◇ ○ □ △

BETA
-8.000
-4.000
.000
4.000
8.000

MACH
1.396

PARAMETRIC VALUES
ELEVON .000
SPDRBK .000

REFERENCE INFORMATION
SREF 2.421C
LREF 38.708C
BREF 38.708C
XMRP .000C
YMRP .000C
ZMRP 9.990C
SCALE .030C

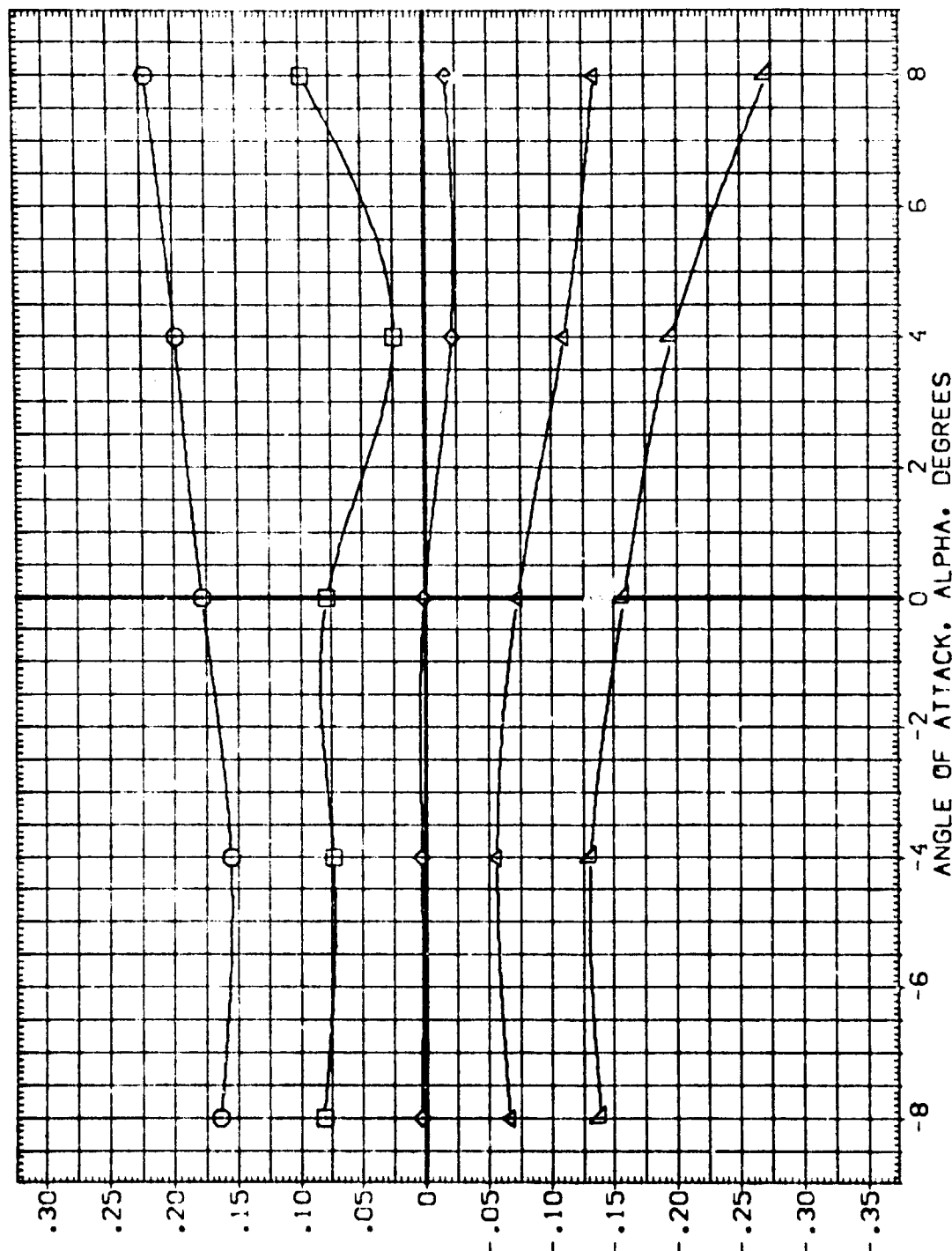


FIG. 25 LV (01 T12 S12 N25) • MACH = 1.40 (TANK + SRM BALANCE)

AMES 11-7:6 1A14A 01+112+S12N25 (TANK+SRM) (1B1151)

SYMBOL
 7
 4
 3
 2
 1

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 1.355
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 SPOILER

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9500 IN.
 SCALE .0300

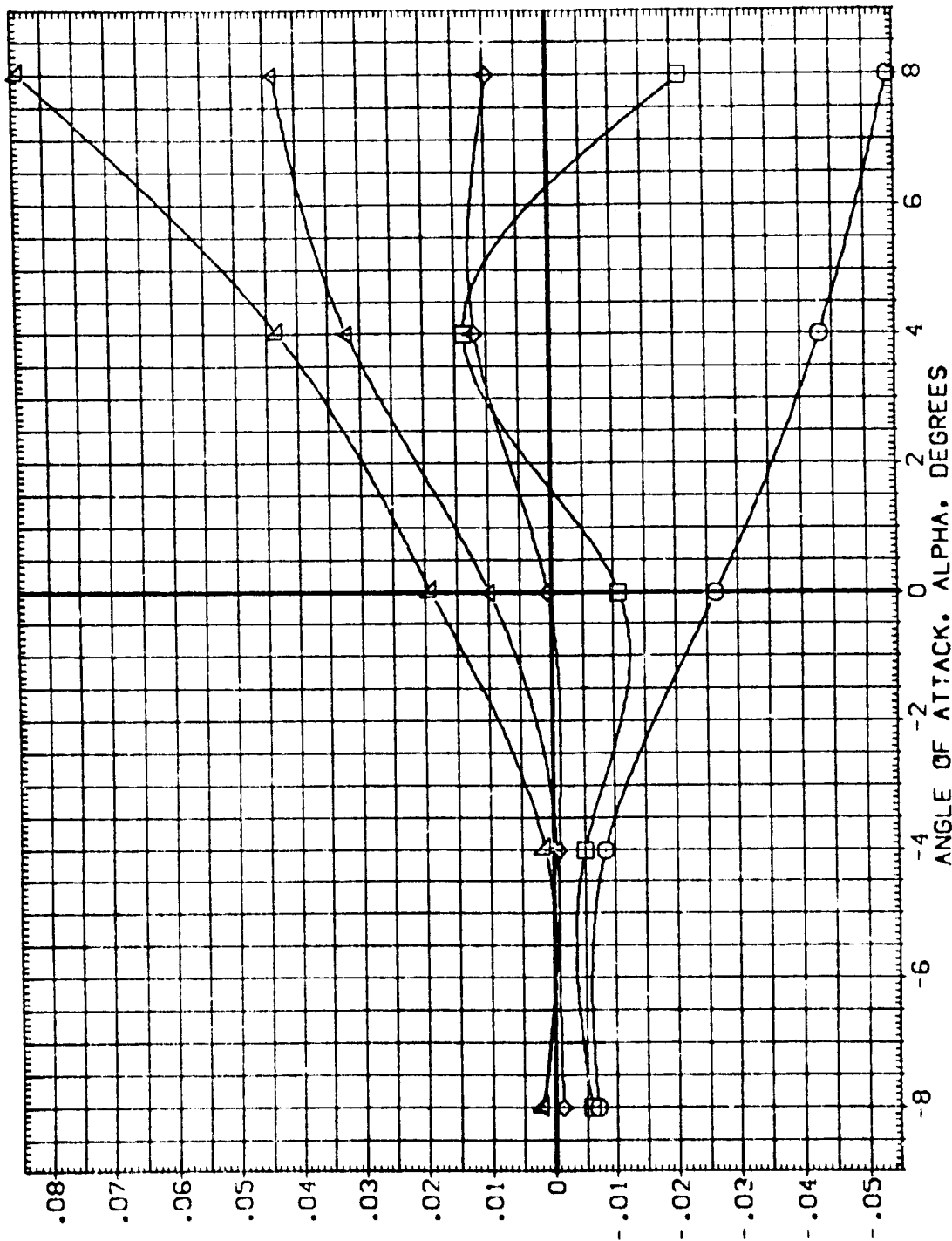


FIG. 25 LV (01 112 S12 N25) , MACH = 1.40 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+112+S12N25 (TANK+SRM) (1B1151)

SYMBOL
▽ ◊ □ ◊ ◊

BETA
-8.000
-4.000
.000
4.000
8.000

MACH
1.356
ELEVON
.000
SPDRK
.000

PARAMETRIC VALUES

SREF
LREF
BREF
XMRP
YMRP
ZMRP
SCALE

REFERENCE INFORMATION
SQ. FT.
IN.
IN.
IN.
IN.
IN.
IN.

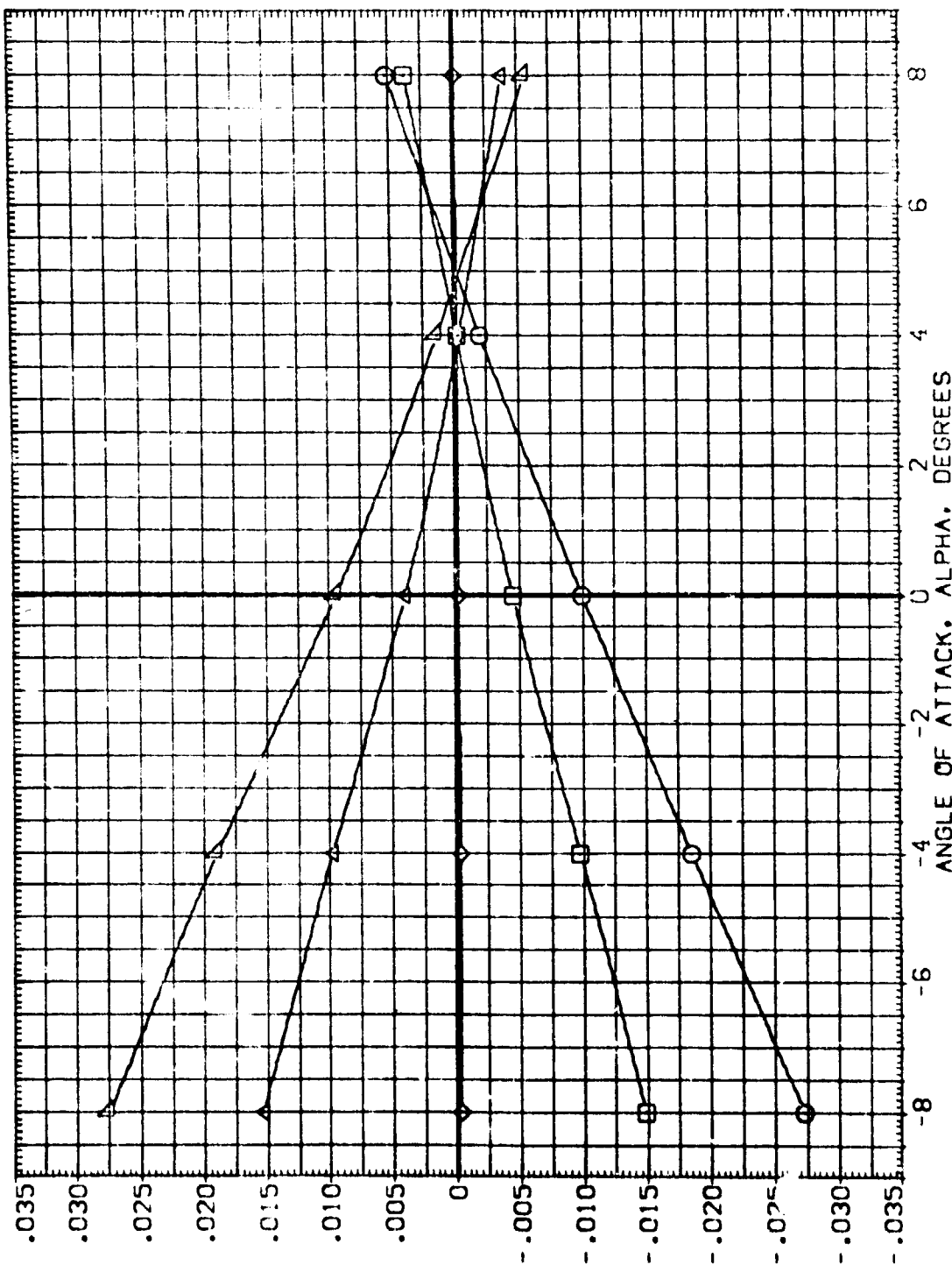


FIG. 25 LV (01 112 S12 N25) , MACH = 1.40 (TANK + SRM BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (RB1017)

SYMBOL	MACH	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
○	.998	.000	ELEVON	5.REF 2.4210
□	.977	.000	SPDBRK	6.REF 38.7080
△	1.102	.000	SPDBRK	7.REF 38.7080
◇	1.248	.000	SPDBRK	8.REF .0000
				9.REF .0000
				10.REF 9.5900
				SCALE .0300

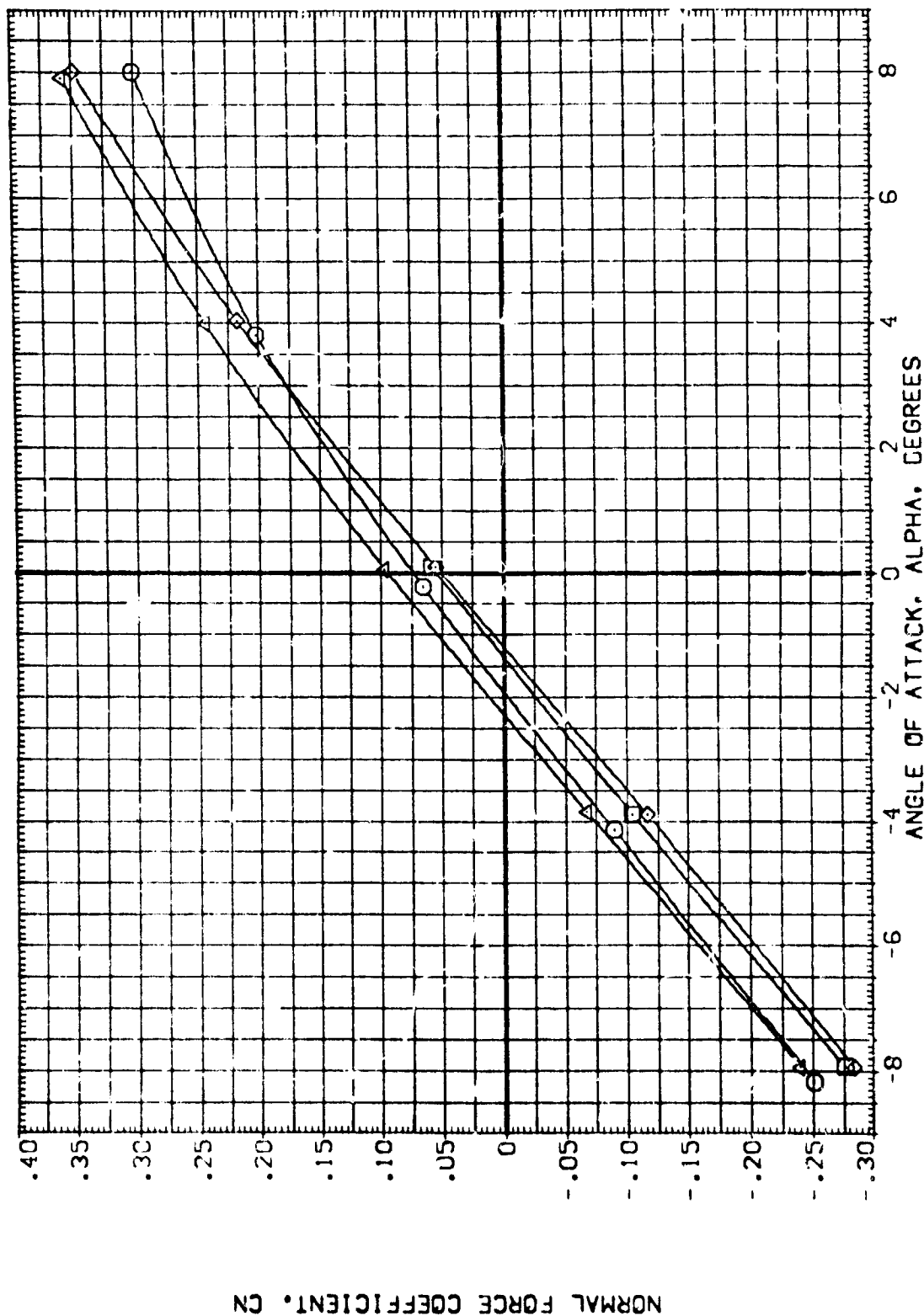


FIG. 26 LVAP (01 T12 S12 N25 AT11) , BETA = 0 (ORBITER BALANCE)

AMES 11-718 1A14A 01+T12+S12 N25+AT11 (ORBITER) (R01017)

SYMBOL	MACH	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
◇	.893	FLUDER	.000	SREF 2.4210
○	.977		.000	LREF 38.7050
○	1.102		.000	BREF 38.7050
○	1.248		.000	XMRP .0000
			.000	VMRP .0000
			.000	ZMRP 9.9900
			.000	SCALE .0300

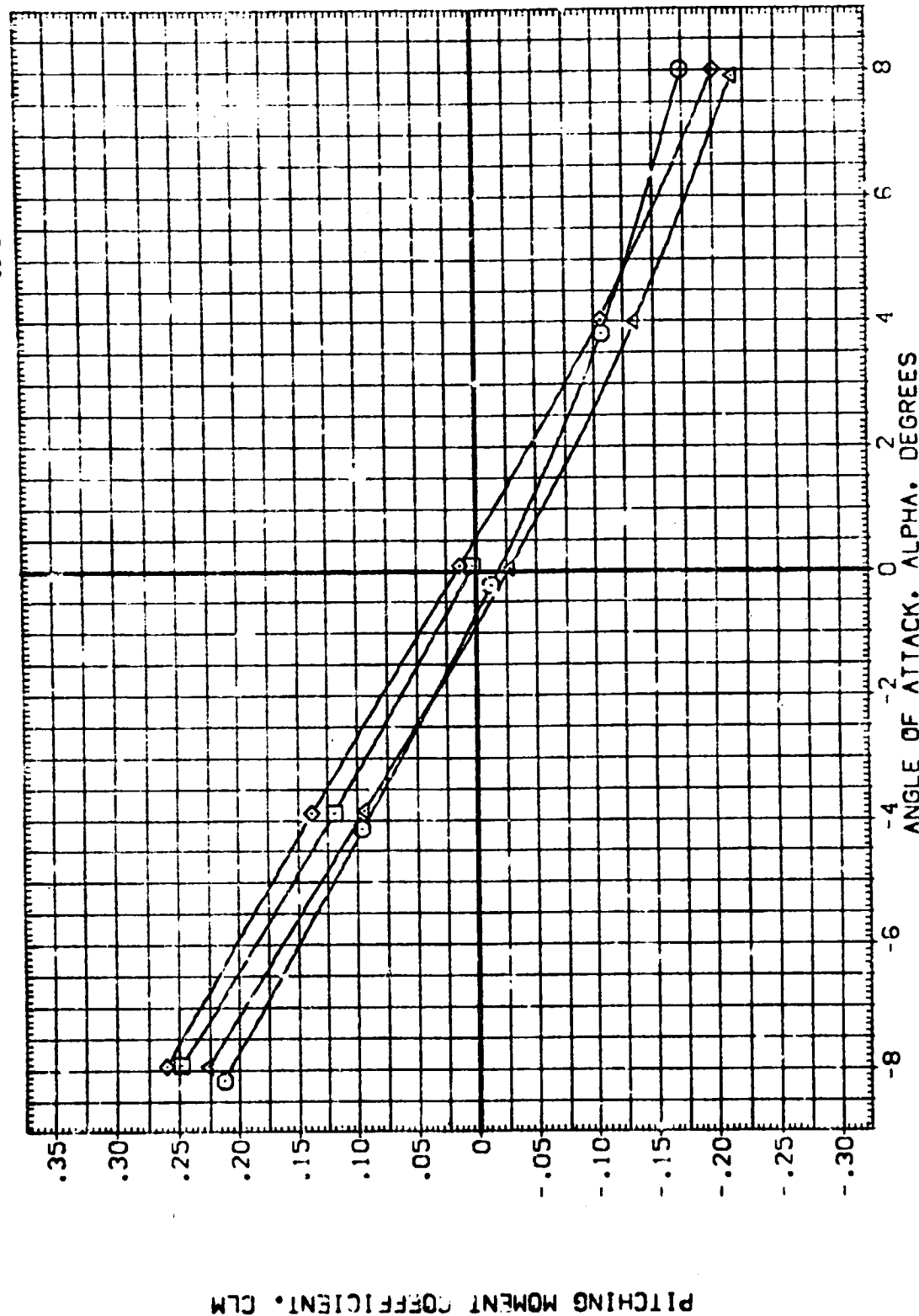


FIG. 26 LVAP (01 T12 S12 N25 AT11) • BETA = 0 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (RB1017)

SYMBOL	MACH	BETA	PARAMETRIC VALUES	REFERENCE INFORMATION
△	.898	.000	ELEV N	SREF 2.4210
□	.977	.000	SPDRX	LREF 38.7090
◇	1.10	.000		BREF 38.7090
	1.248			XREF .0000
				YREF .0000
				ZREF 9.9300
				SCALE .0300

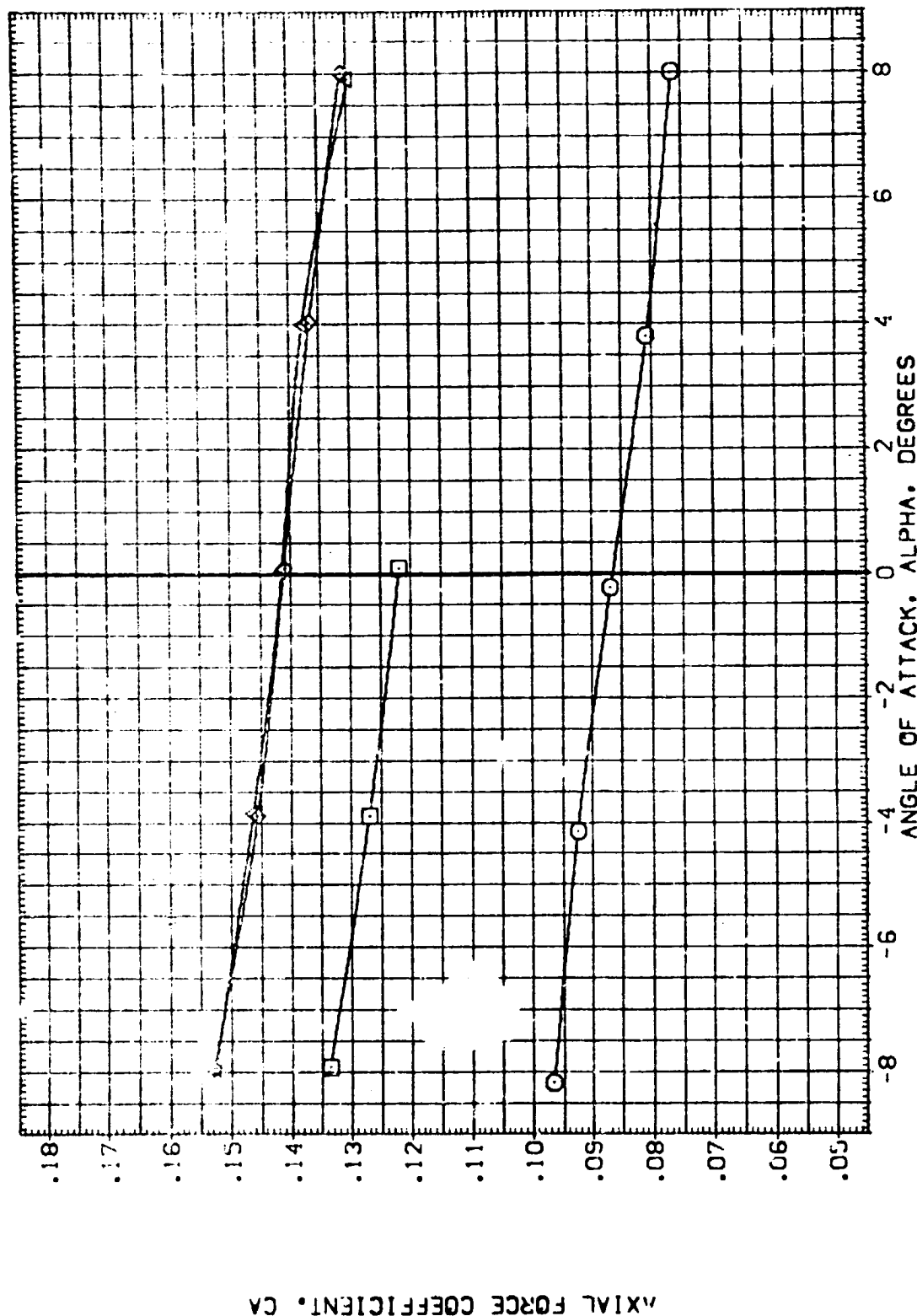


FIG. 26 LVAP (01 T12 S12 N25 AT11), BETA = 0 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (RB1017)

SYMBOL
 ◇
 ○
 △

MACH
 .898
 .977
 1.102
 1.248

BETA
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 SPOBRK

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9500
 SCALE .0300

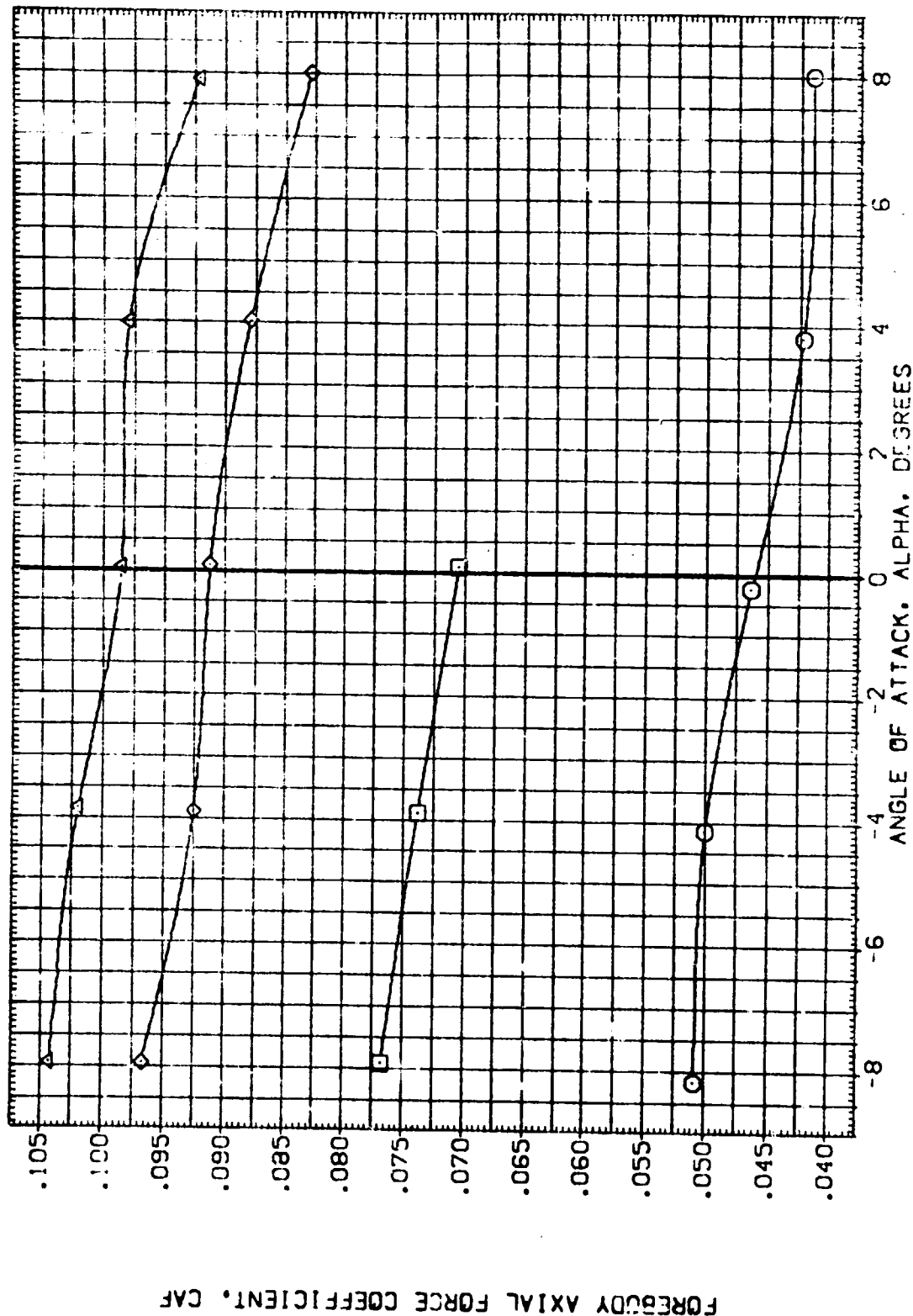


FIG. 26 LVAP (01 T12 S12 N25 AT11) . BETA = 0 (ORBITER BALANCE)

AMES 11-7.6 1A14A 01+T12+S12 N25+AT11 (ORBITER) (RB1017)

SYMBOL		MACH	BETA	PARAMETRIC VALUES		REFERENCE INFORMATION		
○		.898		.000	ELEVON	SREF	2.4210	
□		.977	RJ0013	.000	SP00BK	LREF	38.7090	
△		1.102				BREF	38.7090	
◇		1.248				XVAPP	.0000	
						YVAPP	.0000	
						ZVAPP	9.9930	
						SCALE	.0300	
							SO.FT.	777777

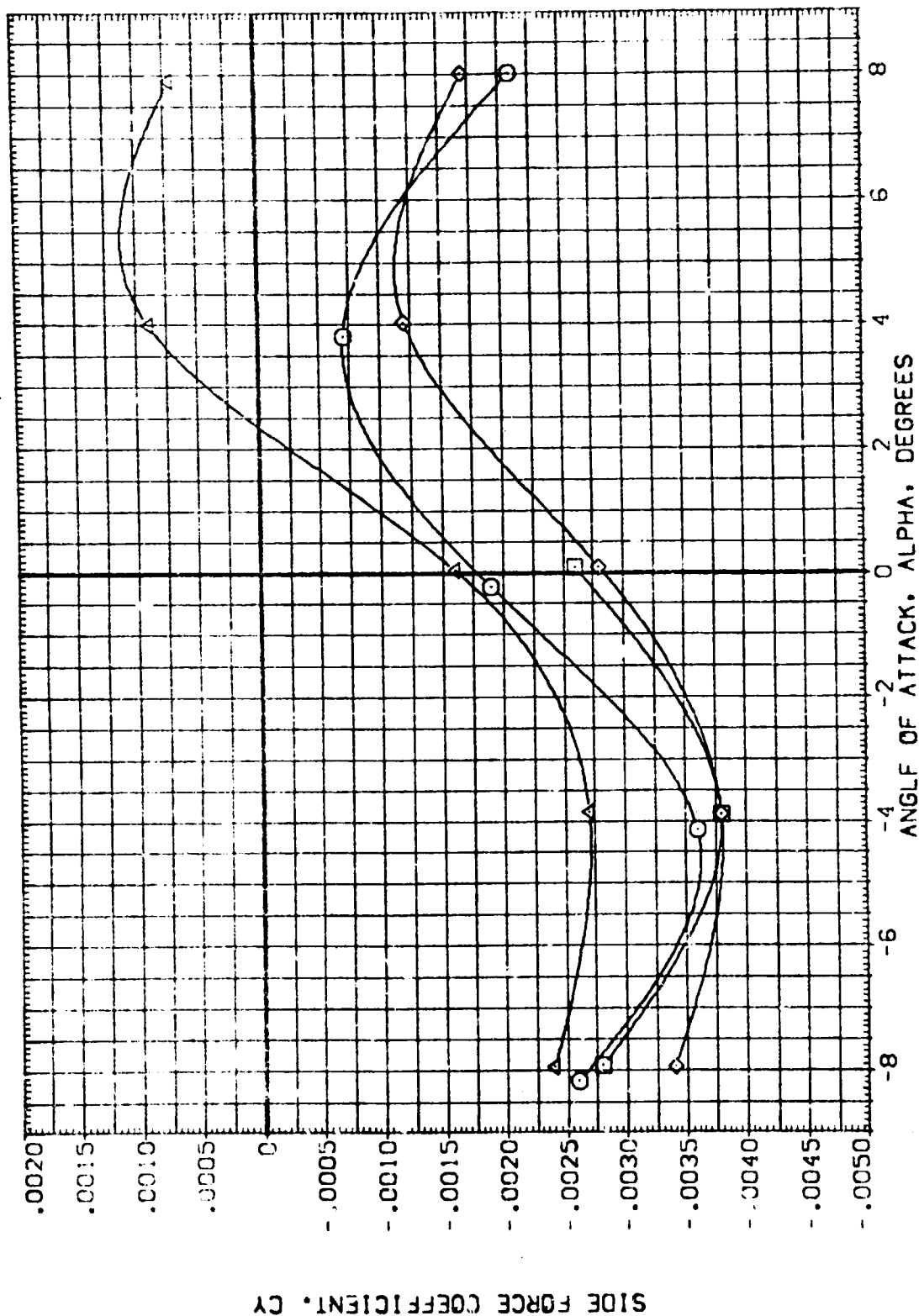


FIG. 26 LVAP (01 T12 S12 N25 AT11) • BETA = 0 (ORBITER BALANCE)

AMES 11-716 1A14A 01+112+S12 N25+AT11 (ORBITER) (RB1017)

SYMBOL
 ○ ○ ○
 △

MACH
 .698
 .977
 1.102
 1.248

PARAMETRIC VALUES
 BETA .000
 RUDDER .000
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9000
 SCALE .0300

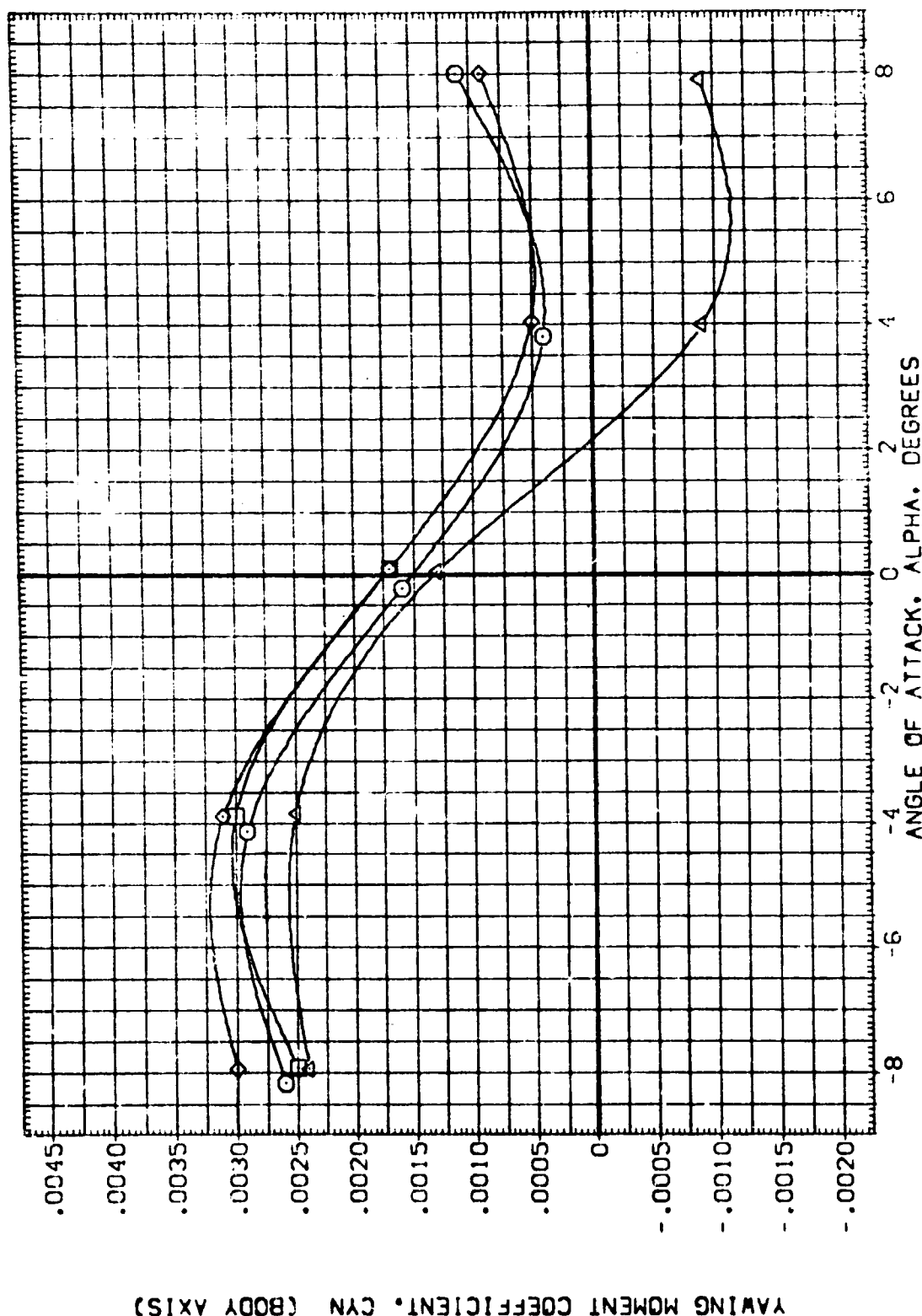


FIG. 26 LVAP (01 112 S12 N25 AT11) • BETA = 0 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (RB1017)

SYMBOL	MACH	PARAMETRIC VALUES		
		BETA	ELEVON	SPDRK
○	.898	.000	.000	.000
◇	.977	.000	.000	.000
△	1.102			
▽	1.248			

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP 0.000
 YMRP 0.000
 ZMRP 9.9500
 SCALE 0.300

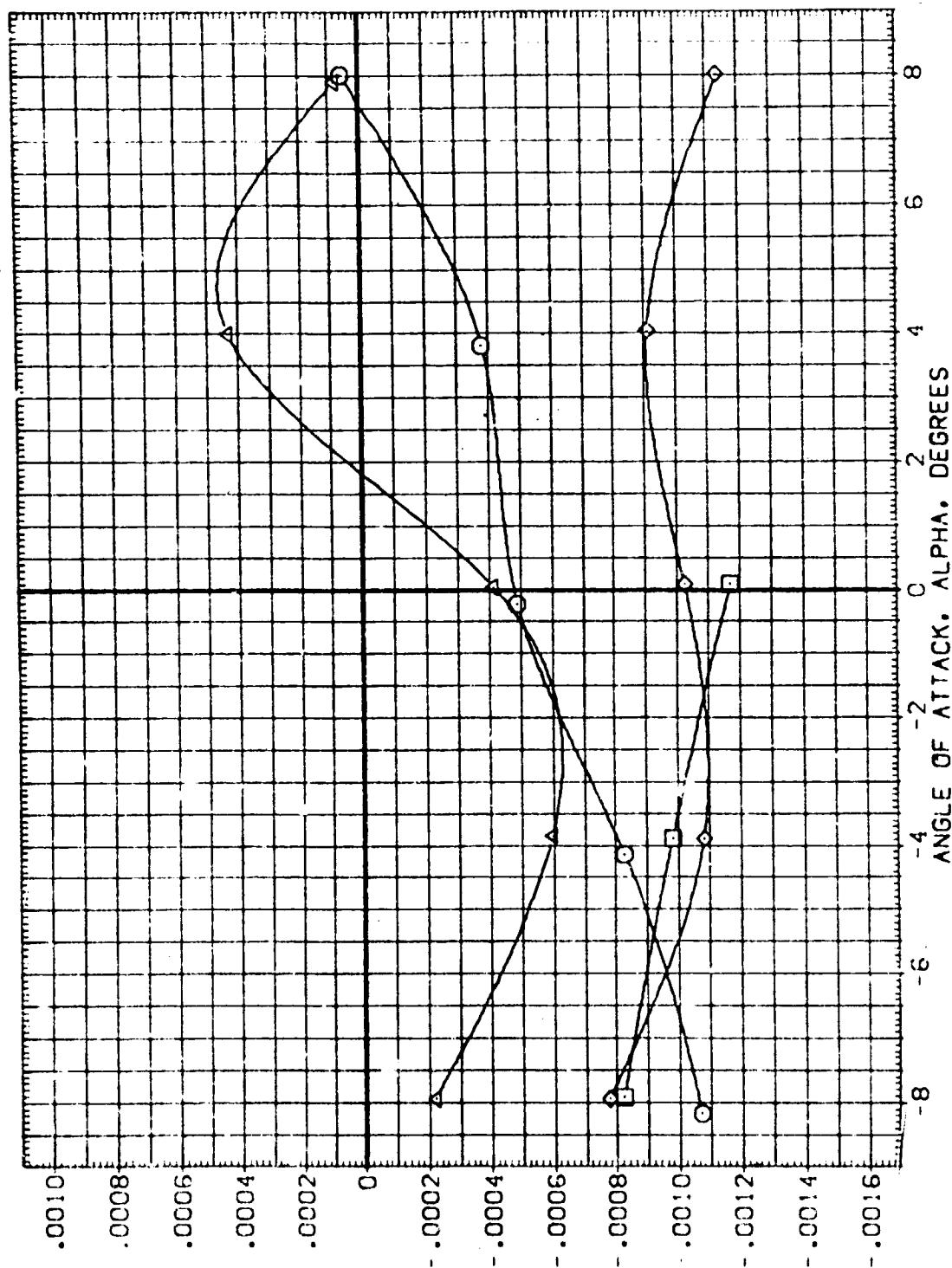


FIG. 26 LVAP (01 T12 S12 N25 AT11) • BETA = 0 (ORBITER BALANCE)

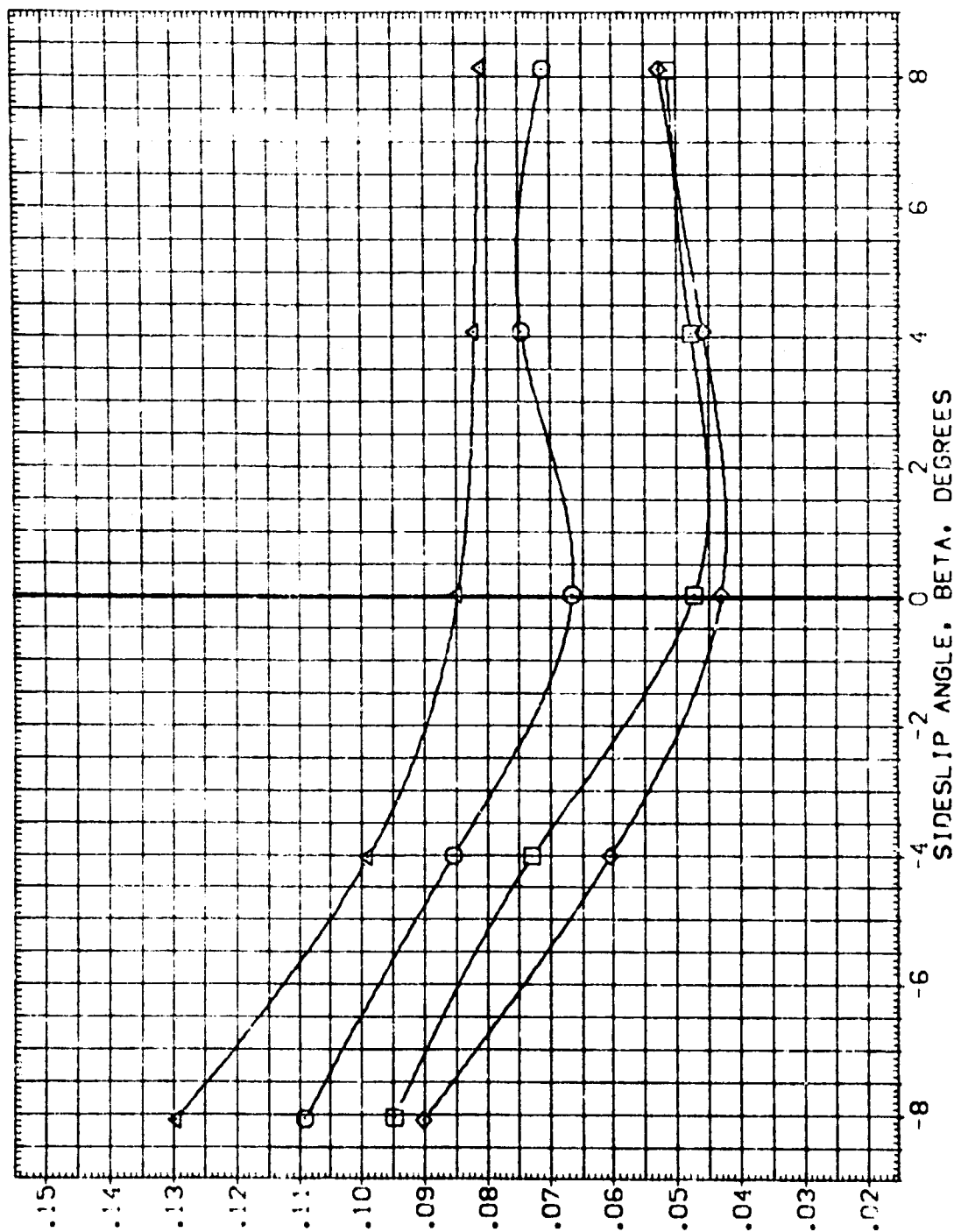
AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (RB1018)

SYMBOL

MACH
 .858
 .978
 1.102
 1.252

PARAMETRIC VALUES
 ALPHA
 .000
 .000
 .000
 .000
 ELEVON
 .000
 .000
 .000
 .000
 SPD3RK

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 5.9900
 SCALE .0000



NORMAL FORCE COEFFICIENT, CN

FIG. 27 LVAP (01 T12 S12 N25 AT11), ALPHA = 0 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12-S12 N25+AT11 (ORBITER) (KB1018)

SYMBOL	MACH	PARAMETRIC VALUES			REFERENCE INFORMATION		
		ALPHA	ELEVON	SPDRK	SREF	LREF	IN.
○	.898	.000	.000	.000	2.4210	38.7090	IN.
◇	.978	.000	.000	.000	38.7090	38.7090	IN.
△	1.102	.000	.000	.000	.0000	.0000	IN.
	1.252				9.8900	9.8900	IN.
					SCALE	.0300	

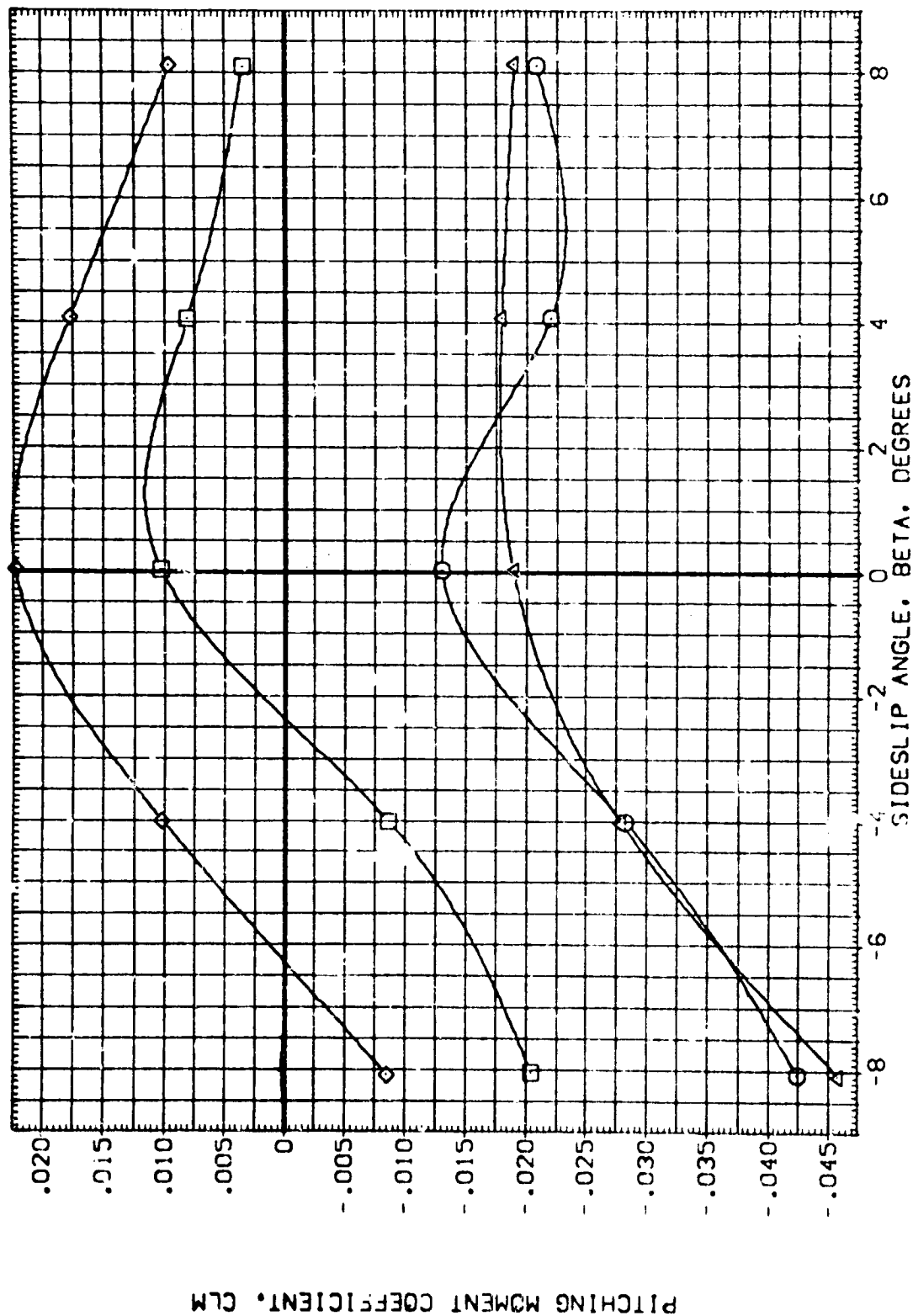


FIG. 27 LVAP (01 T12 S12 N25 AT11) • ALPHA = 0 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (RB1018)

SYMBOL
◇ ○ □ ◇

MACH
.898
.978
1.102
1.252

PARAMETRIC VALUES
ALPHA
ELEVON
SPDRK

.000
.000
.000

REFERENCE INFORMATION
SREF 2.4210
LREF 38.7090
BREF 38.7250
XMRP .0000
YMRP .0000
ZMRP 9.8900
SCALE .0300

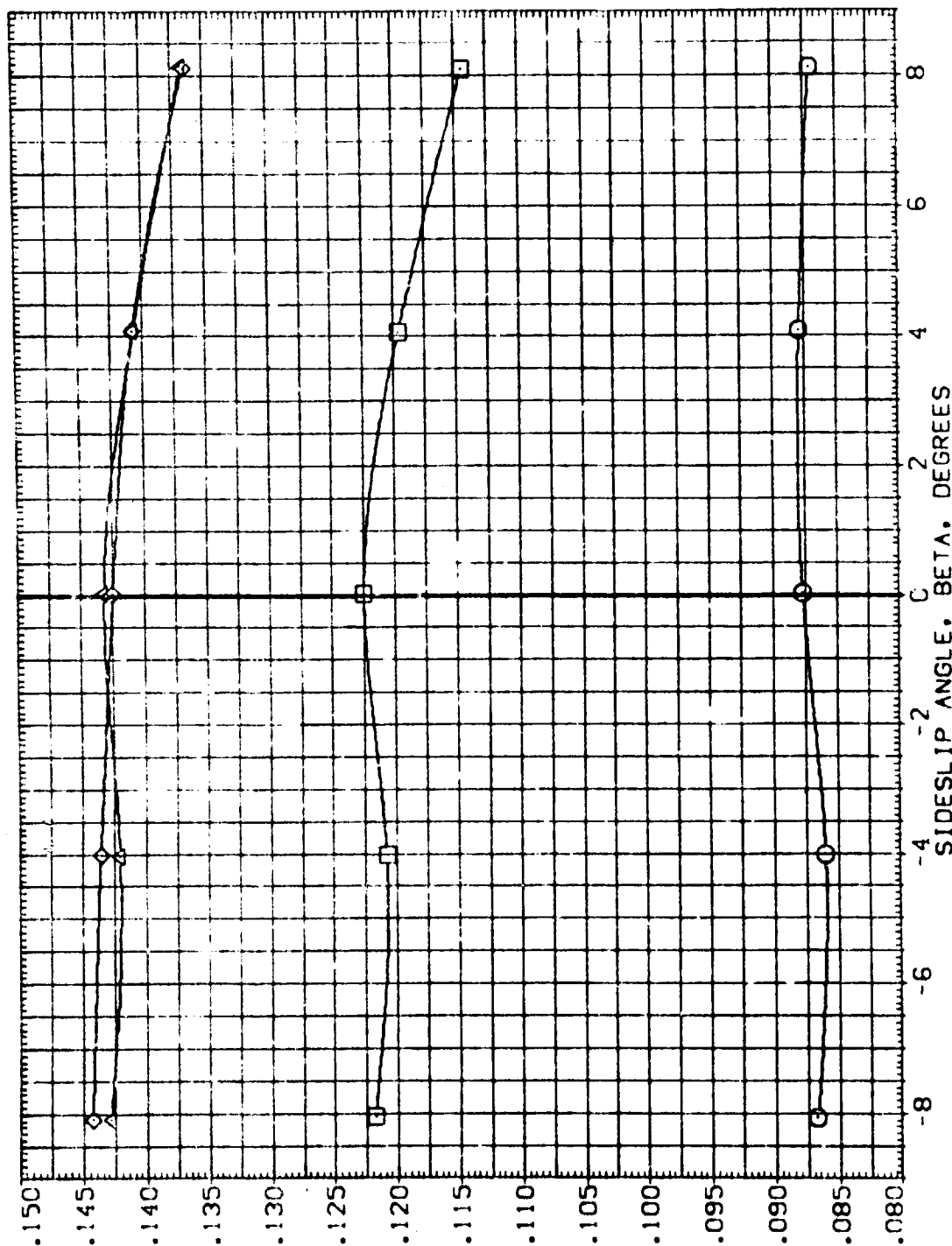


FIG. 27 LVAP (01 T12 S12 N25 AT11) • ALPHA = 0 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (RB1018)

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7050
 BREF 38.7050
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

PARAMETRIC VALUES
 MACH .898
 ALPHA .000
 ELEVON .000
 RUDDER .000
 SPOBRK .000
 1.102
 1.252

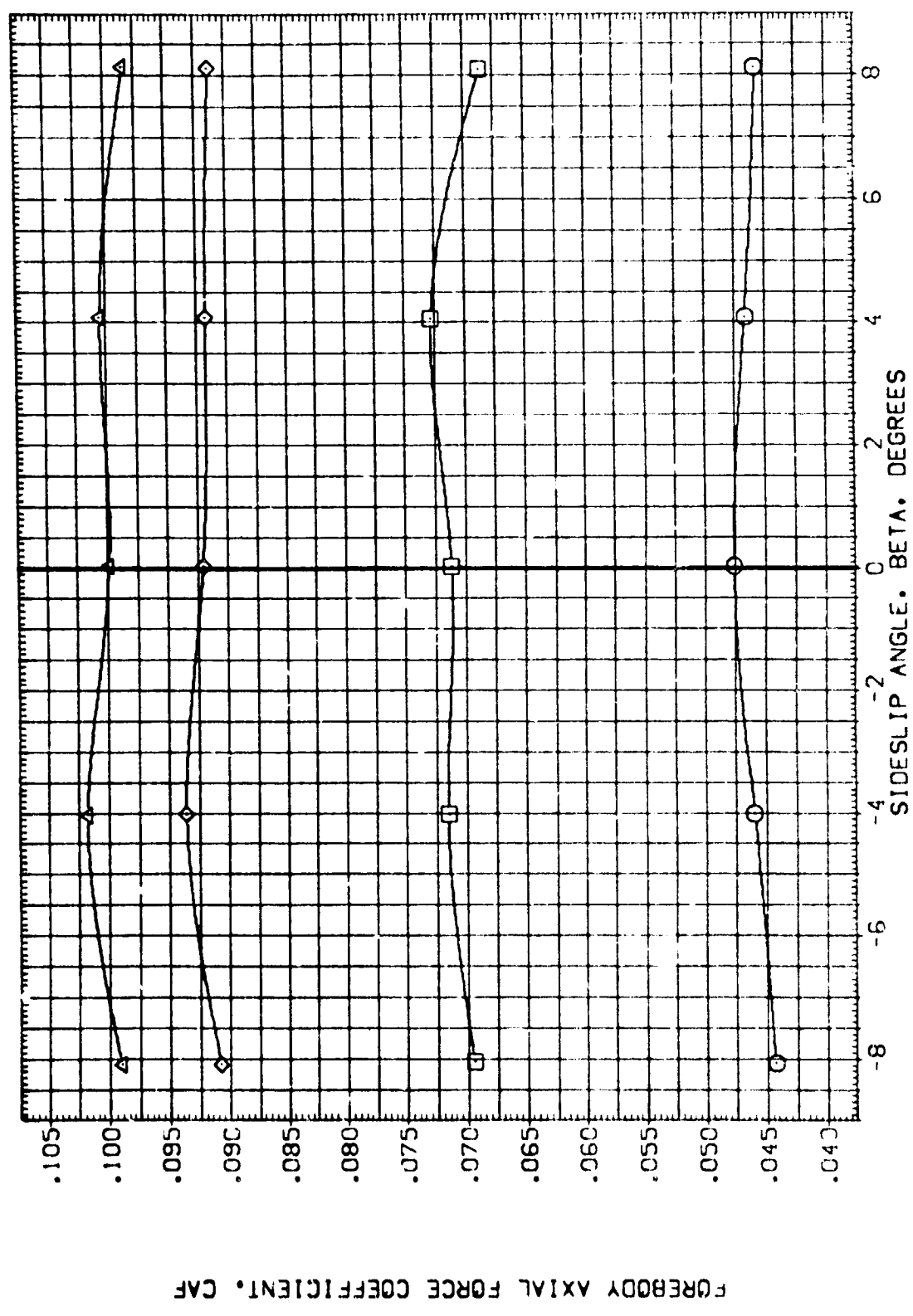


FIG. 27 LVAP (01 T12 S12 N25 AT11) . ALPHA = 0 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (RB1018)

SYMBOL
◇ ○ □ △

MACH
.898
.978
1.102
1.252

PARAMETRIC VALUES
ALPHA .000
ELEVON .000
SPORK .000

.000
.000

REFERENCE INFORMATION
SREF 2.4210 50 FT.
LREF 38.7090 IN.
BREF 38.7090 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.5000 IN.
SCALE 10.00

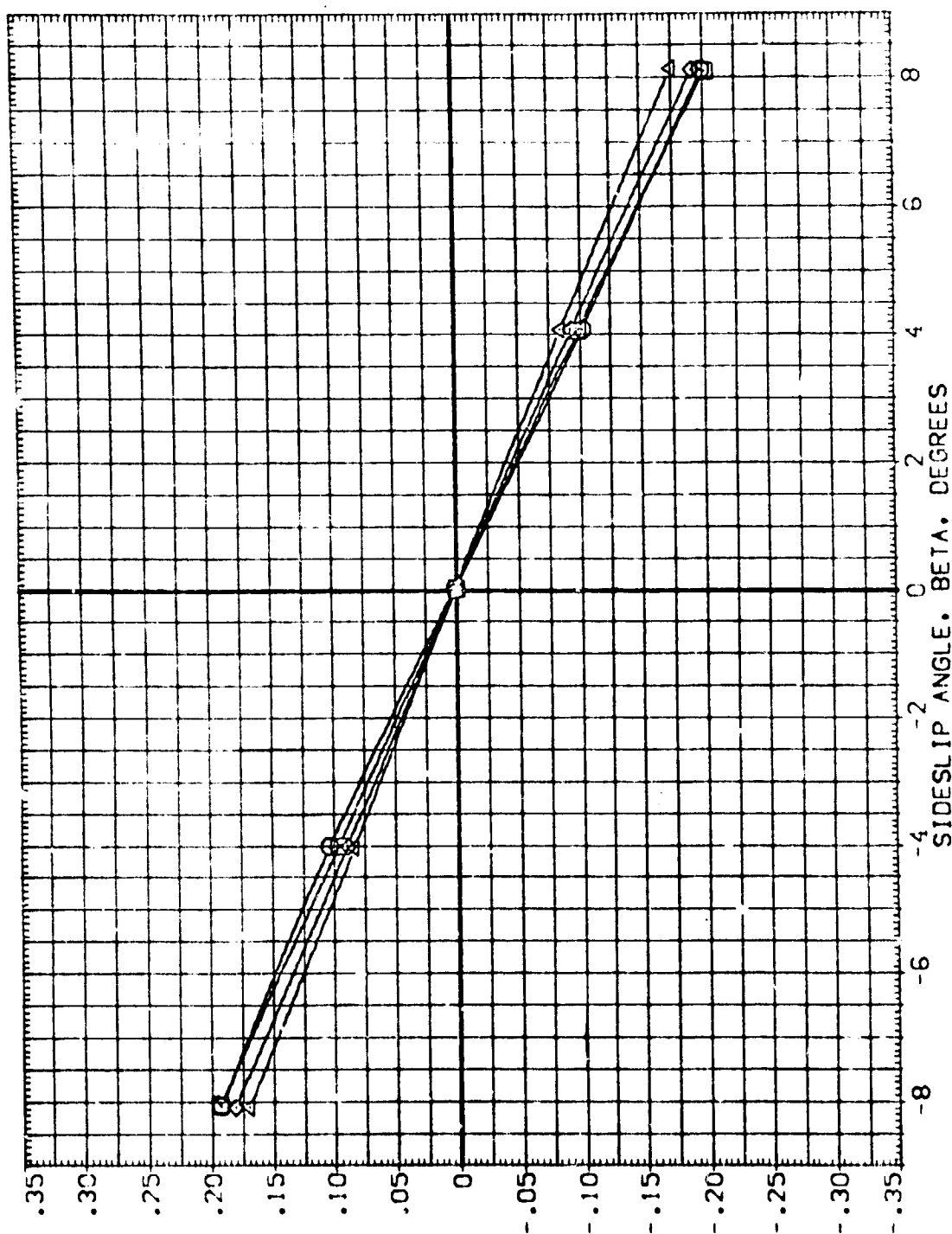


FIG. 27 LVAP (01 T12 S12 N25 AT11) . ALPHA = 0 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (RB1018)

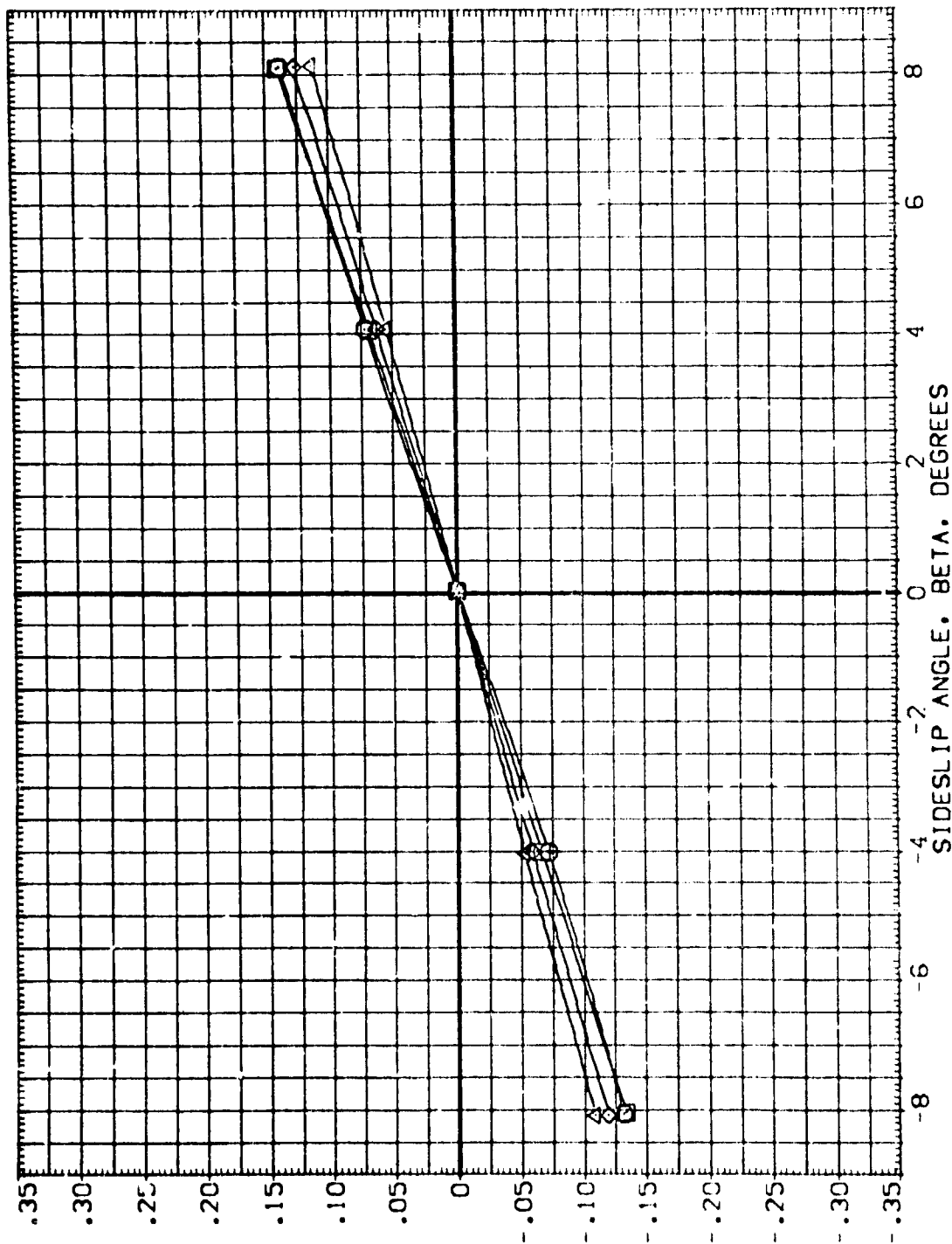
SYMBOL
 ○ □ ◇ △

MACH
 .898
 .978
 1.102
 1.252

PARAMETRIC VALUES
 ALPHA
 FLDER
 .000
 .000
 .000
 .000

ELEVON
 SPOORR
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210 50.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300



YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)

FIG. 27 LVAP (01 T12 S12 N25 AT11) • ALPHA = 0 (ORBITER BALANCE)

AMES 11-716 1A14A 01+112+S12 N25+AT11 (ORBITER) (RB1018)

SYN-601

MACH
 .898
 .978
 1.102
 1.252

PARAMETRIC VALUES
 ALPHA .000 ELEVON .000
 RUDDER .000 SPOILER .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XPRP .0000 IN.
 YPRP .0000 IN.
 ZPRP 9.5900 IN.
 SCALE .0300

ROLLING MOMENT COEFFICIENT, CRL (BODY AXIS)

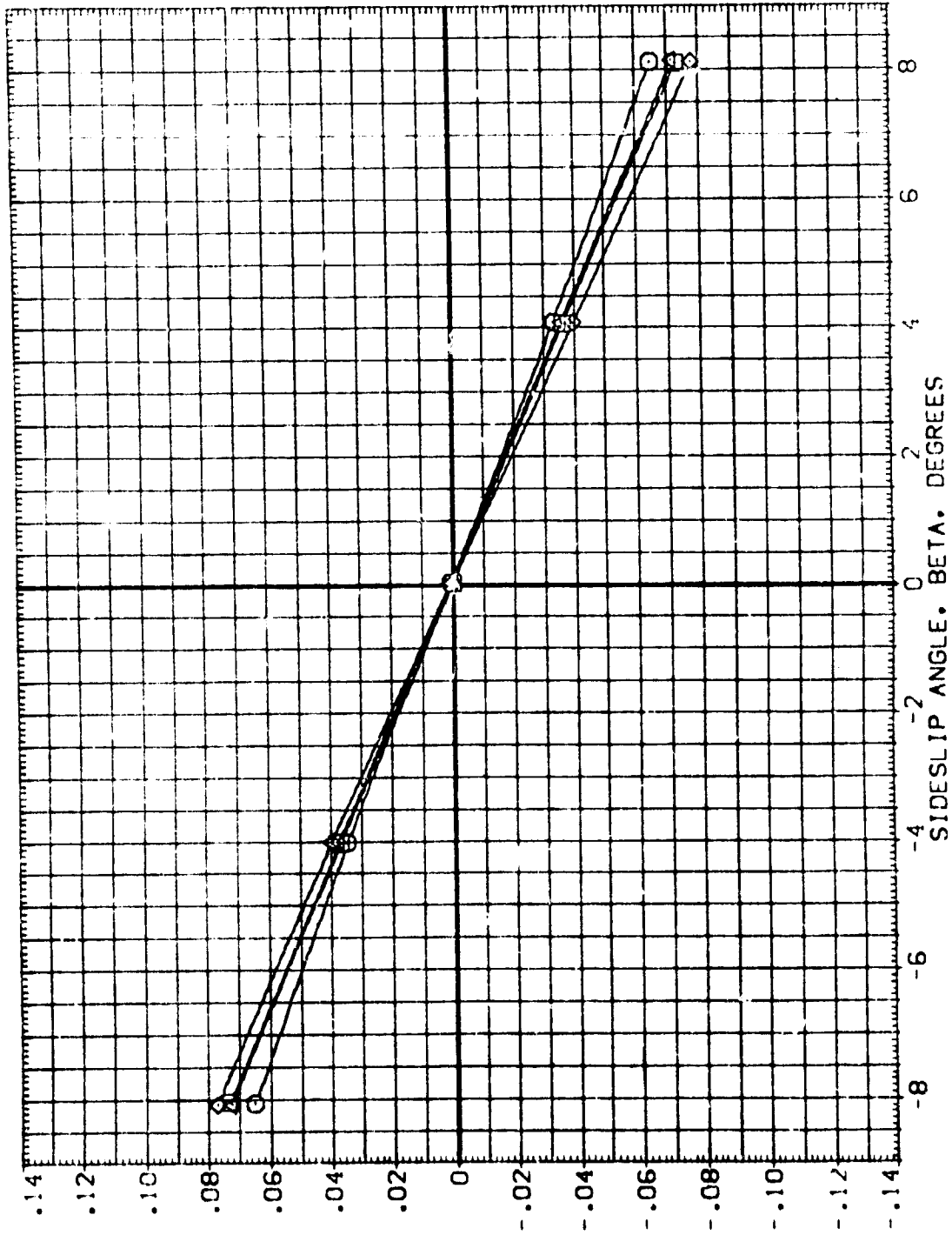


FIG. 2/ LVAP (01 112 S12 N25 AT11) . ALPHA = 0 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (RB1030)

SYMBOL
○

ALPHA
- .330

BETA
RLODER

PARAMETRIC VALUES
.000 ELEVON
.000 SPOBRK

.000
.000

REFERENCE INFORMATION

SREF 4210 SQ.FT.
LREF 38.7050 IN.
BREF 38.7050 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9900 IN.
SCALE .0300

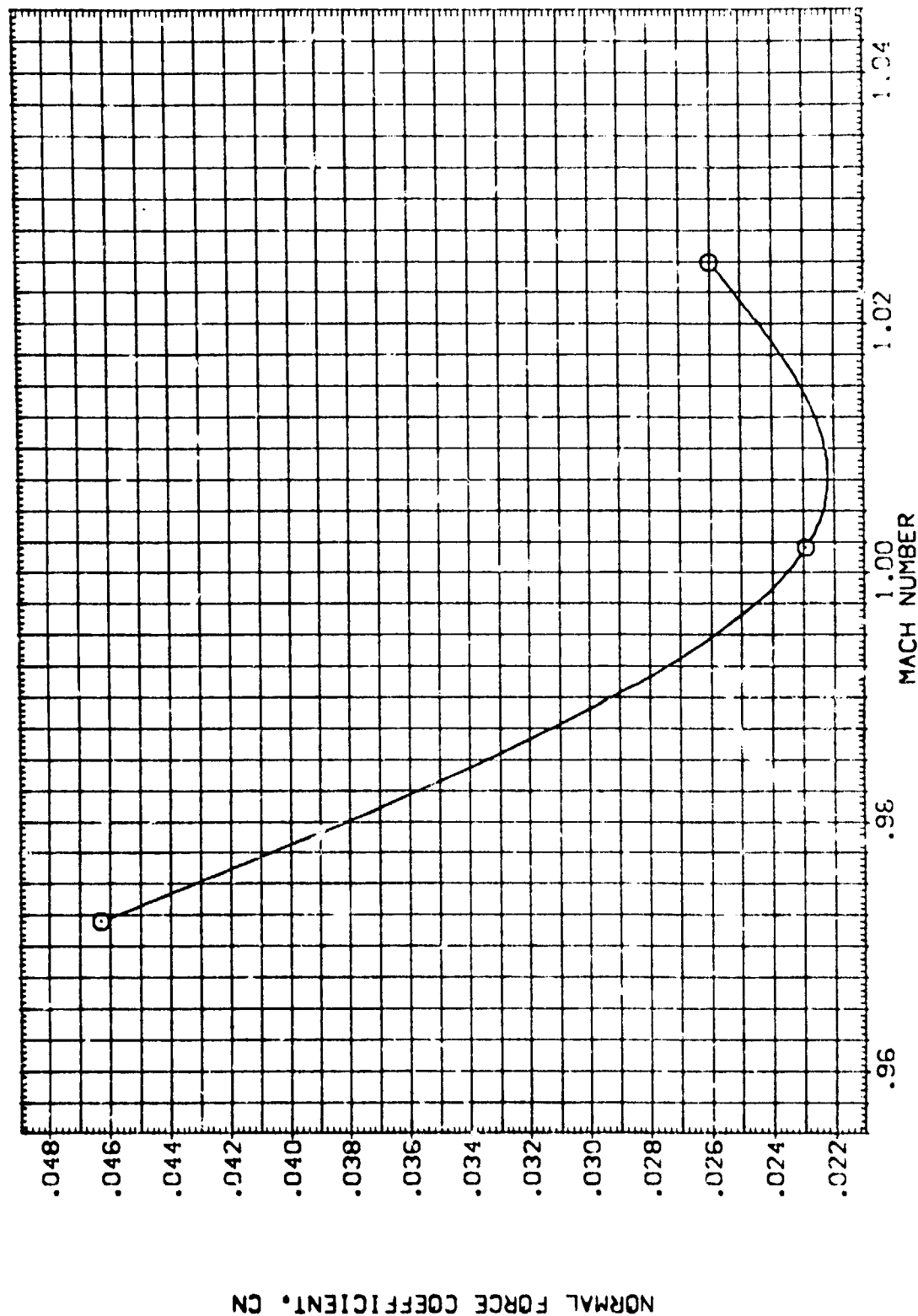


FIG. 28 LVAP (01 T12 S12 N25 AT11) • ALPHA = 0 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (RB1030)

SYMBOL
O

ALPHA
- .330

BETA
RUDDER

PARAMETRIC VALUES
.000 ELEVON
.000 SPOILER

.000
.000

REFERENCE INFORMATION
SREF 2.4210 SQ.FT.
LREF 38.7090 IN.
BREF 38.7090 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9600 IN.
SCALE .0300

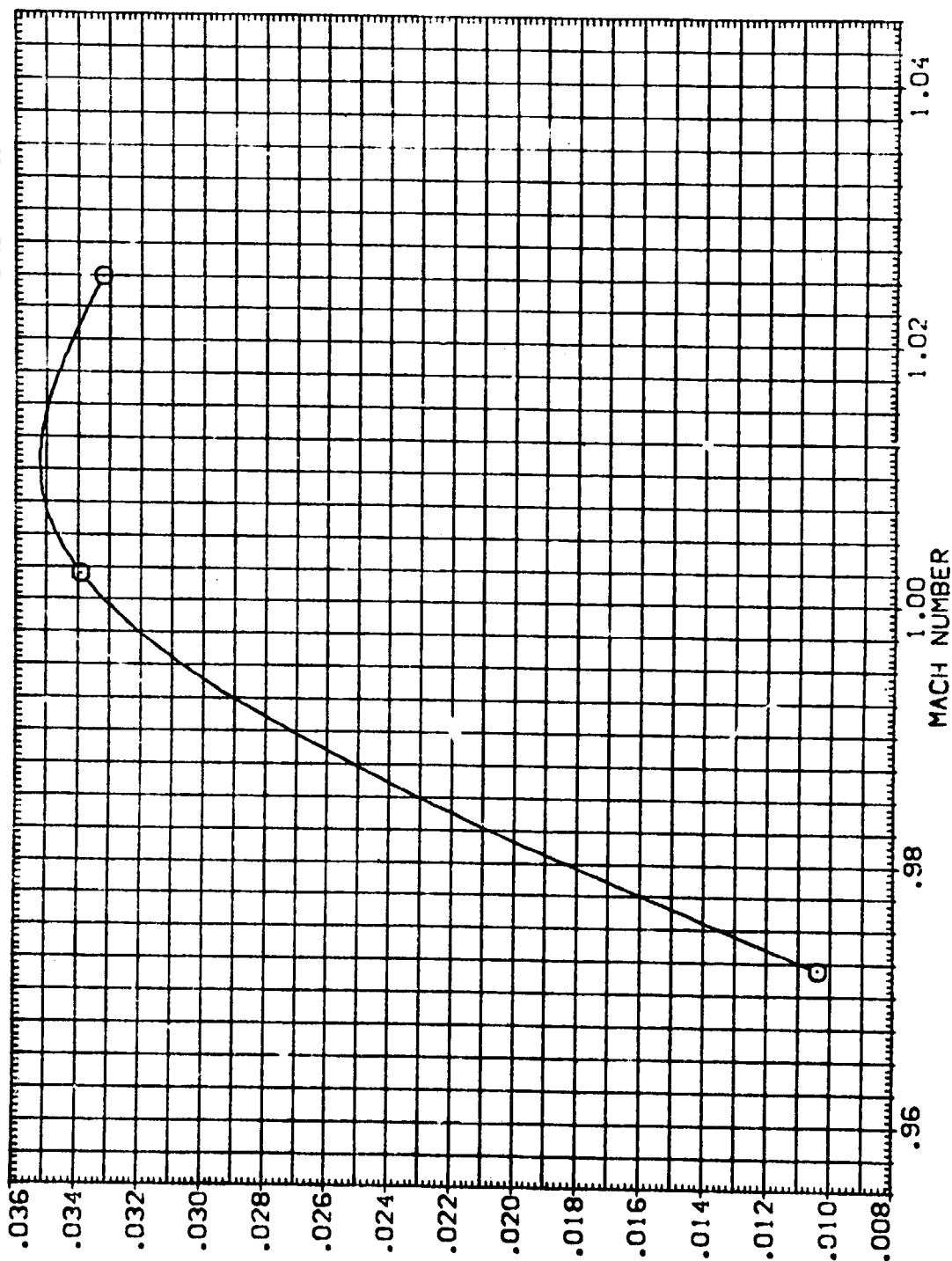


FIG. 28 LVAP (01 T12 S12 N25 AT11), ALPHA = 0 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (RB1030)

SYMBOL: O

ALPHA: -.330

BETA: .000

RUDER: .000

ELEVON: .000

SPOILER: .000

REFERENCE INFORMATION

SREF: 2.4210

LREF: 38.7090

BREF: 38.7090

XMRP: .0000

YMRP: .0000

ZMRP: 9.9900

SCALE: .0300

50.FT. IN. IN. IN. IN.

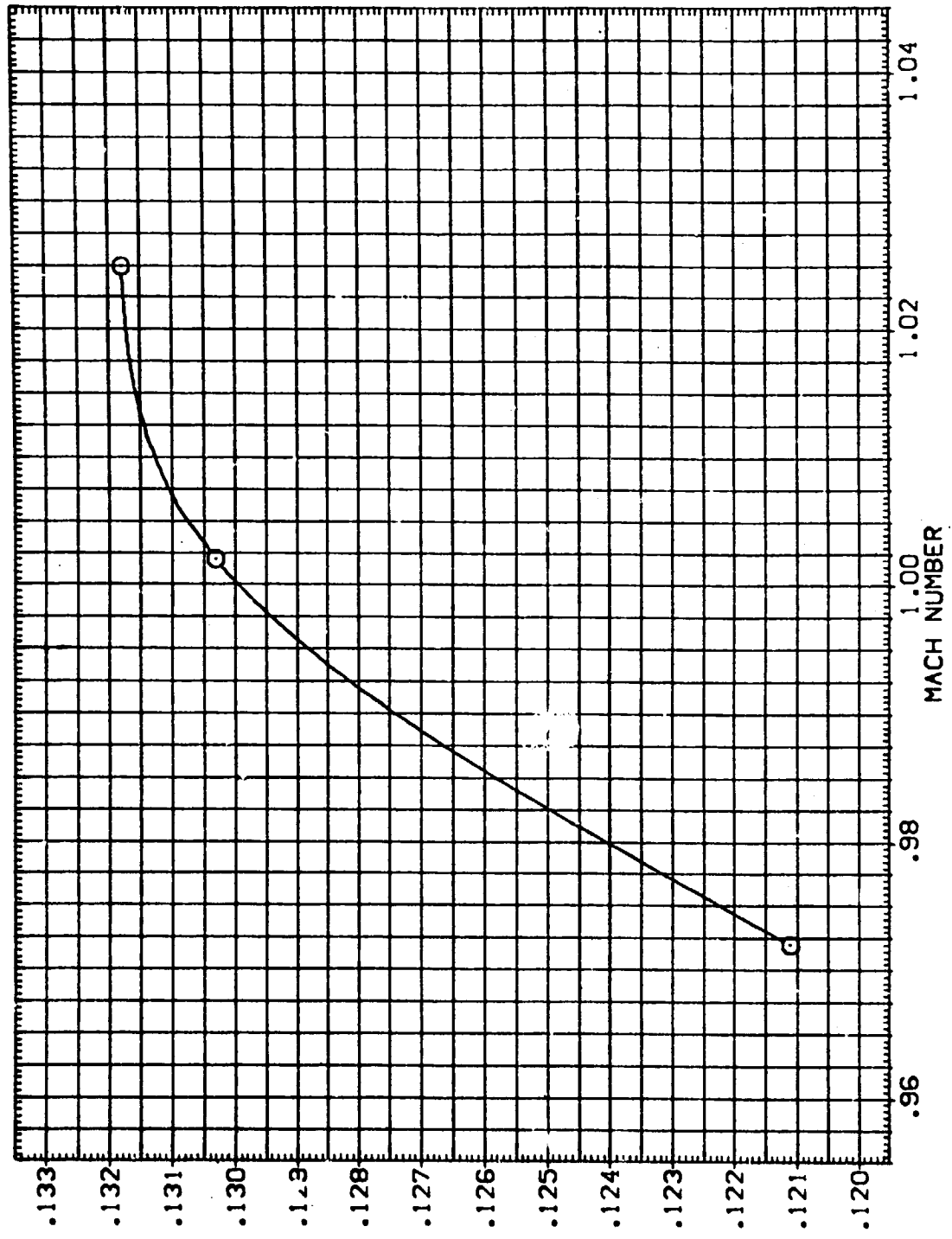


FIG. 28 LVAP (01 T12 S12 N25 AT11) , ALPHA = 0 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (R31030)

SYMBOL
O

ALPHA
-.330

BETA
RUDDER

PARAMETRIC VALUES
.000 ELEVON
.000 SPOILER

.000
.000

REFERENCE INFORMATION
SREF 2.4210 50.FT.
LREF 38.7090 IN.
BREF 38.7090 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9900 IN.
SCALE .0300

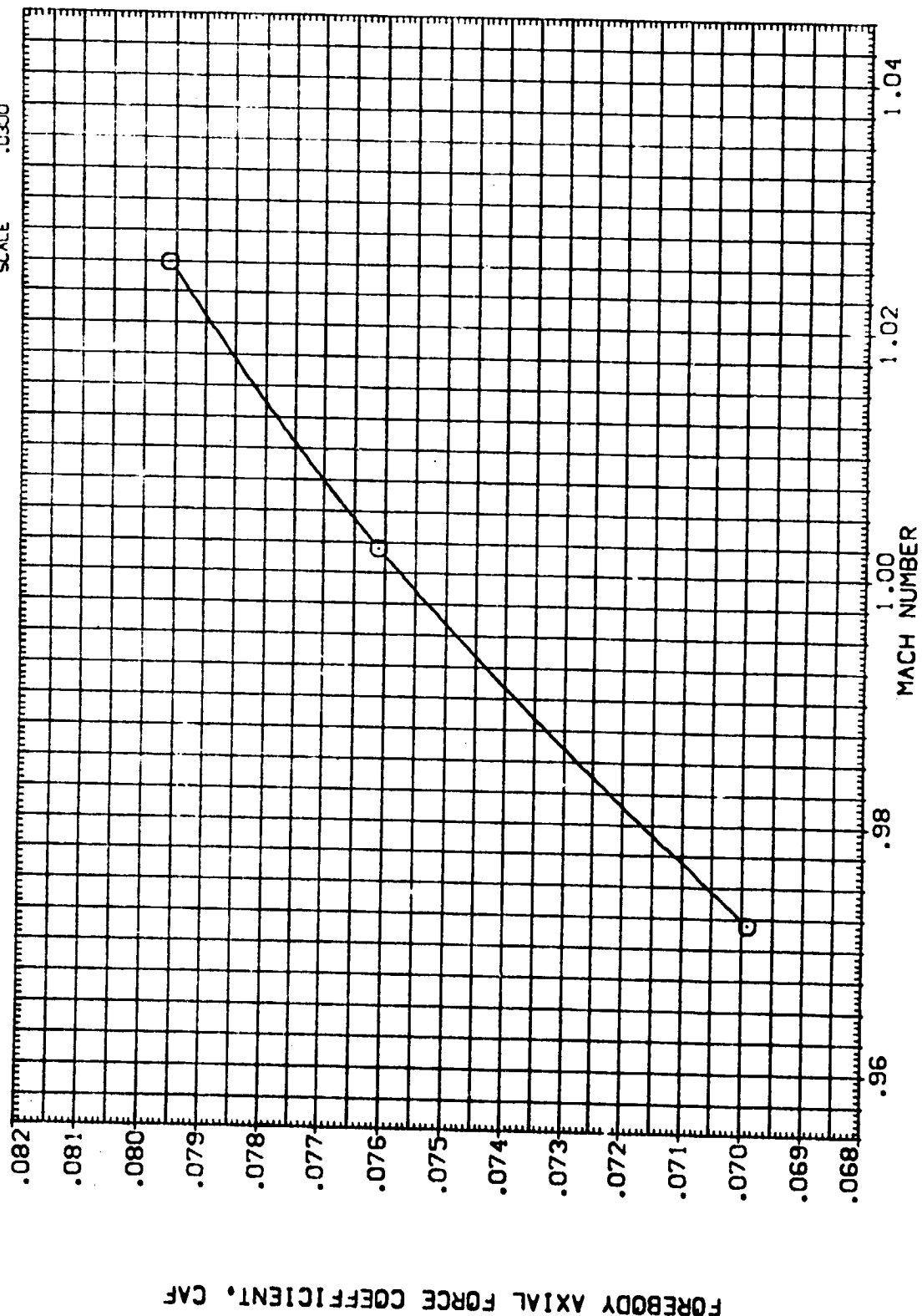


FIG. 28 LVAP (01 T12 S12 N25 AT11) • ALPHA = 0 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (RB1030)

SYMBOL
O

ALPHA
-.330

BETA
RUDDER

PARAMETRIC VALUES
.000 ELEVON
.000 SPOBRK

.000
.000

REFERENCE INFORMATION
SREF 2.4210 SQ.FT.
LREF 38.7050 IN.
BREF 38.7050 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9900 IN.
SCALE .0300

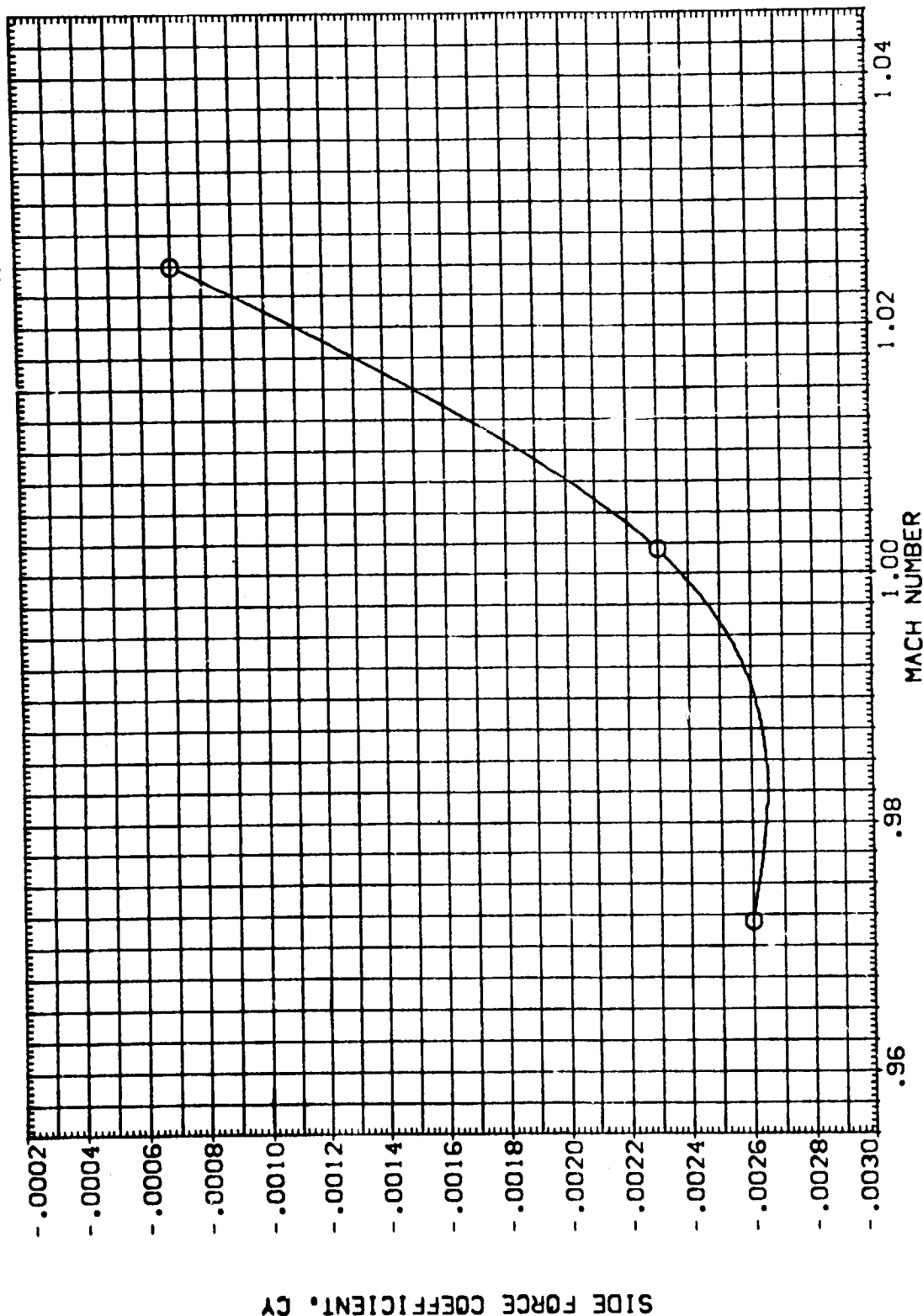


FIG. 28 LVAP (01 T12 S12 N25 AT11) • ALPHA = 0 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (RB1030)

SYMBOL ALPHA BETA RUDDER
O -0.330

PARAMETRIC VALUES
ELEVON .000
SPDBRK .000

REFERENCE INFORMATION
SQ.FT.
2.4210
38.7090
38.7090
0.0000
0.0000
9.9900
0.0300

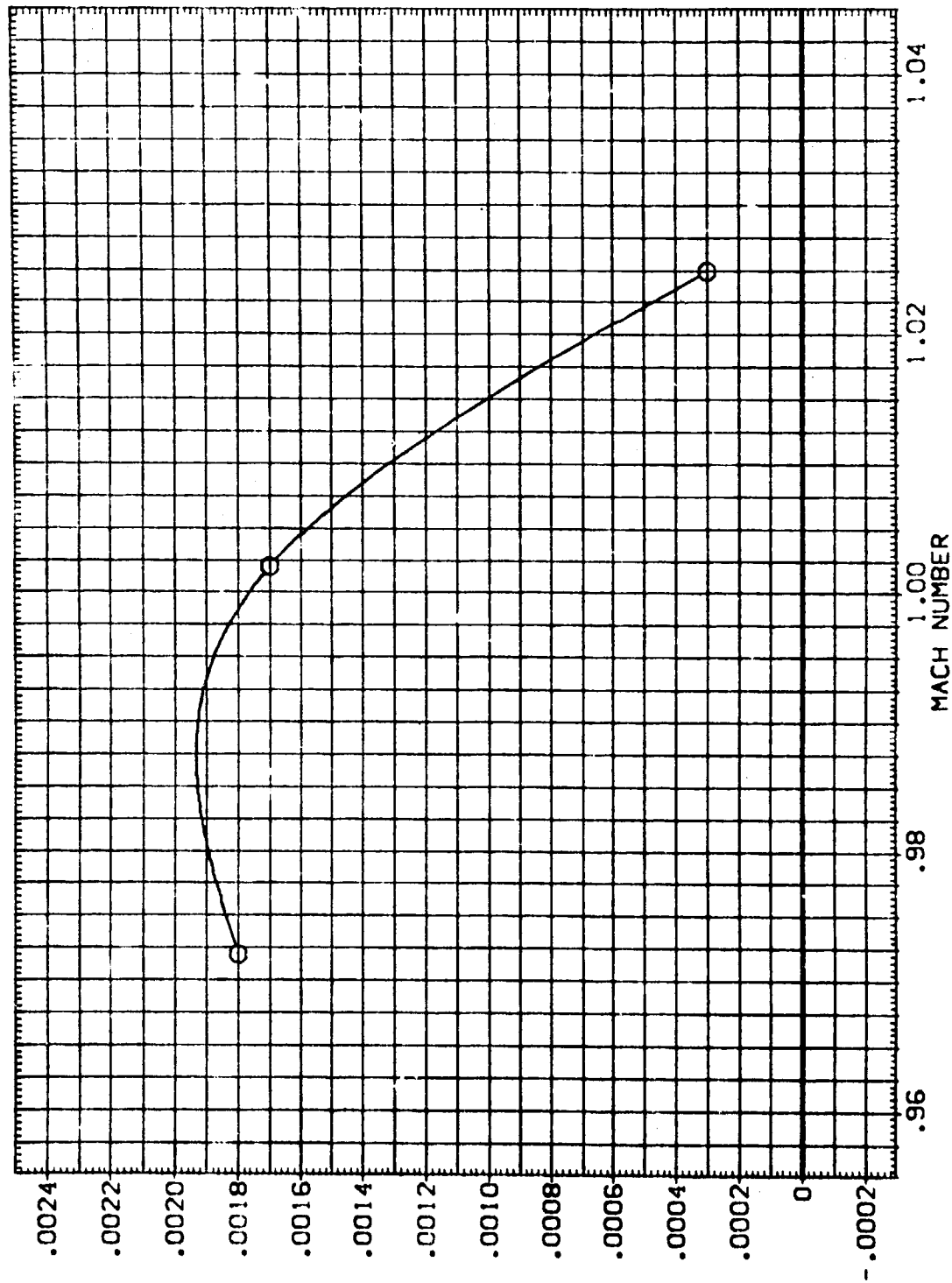


FIG. 28 LVAP (01 T12 S12 N25 AT11), ALPHA = 0 (ORBITER BALANCE)

REFERENCE INFORMATION		50. FT.
SREF	2.4210	IN.
LREF	38.7090	IN.
BREF	38.7090	IN.
XMRP	.0000	IN.
YMRP	.0000	IN.
ZMRP	9.9900	IN.
SCALE	.0300	

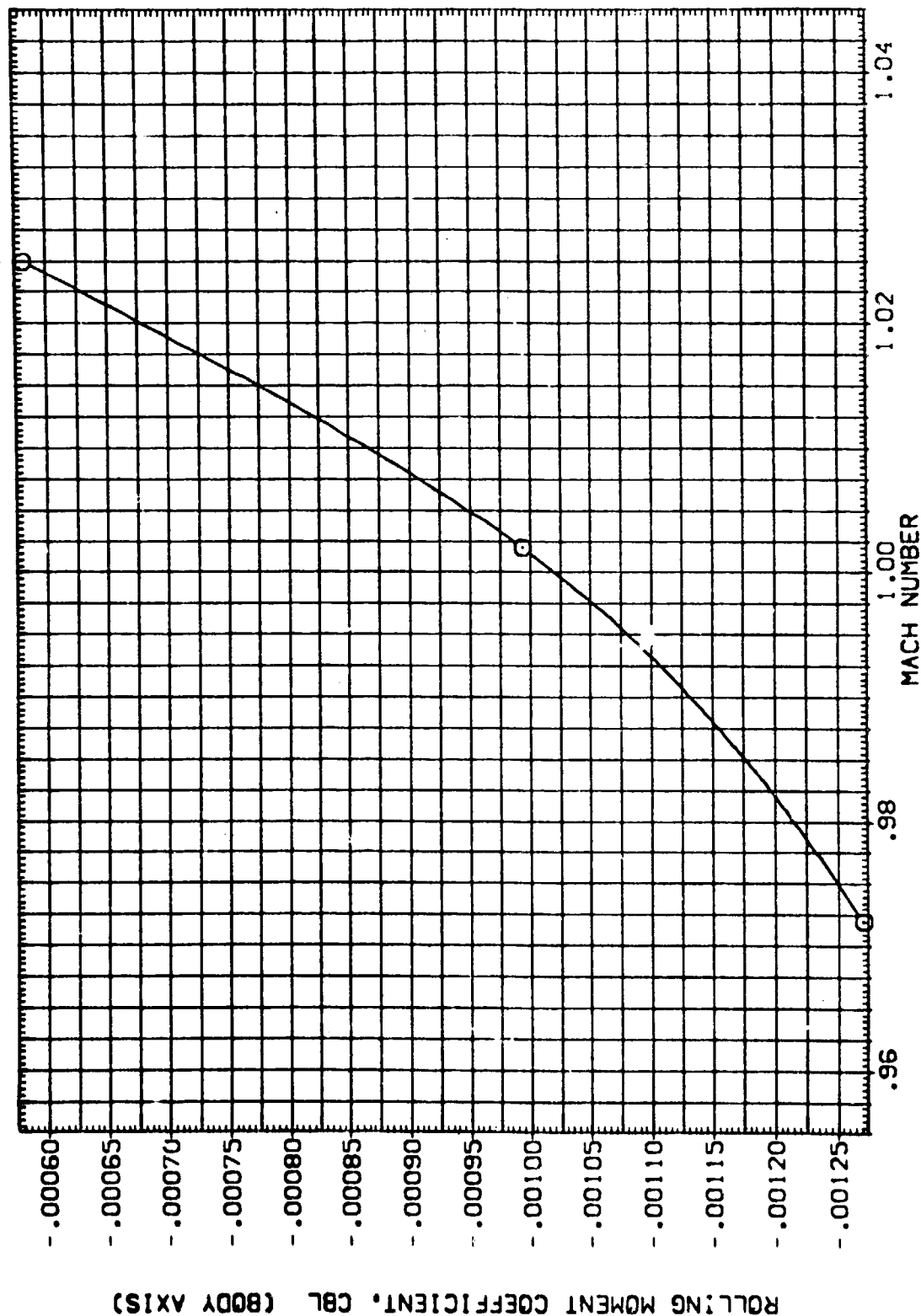


FIG. 28 LVAP (01 T12 S12 N25 AT11) , ALPHA = 0 (ORBITER BALANCE)

AMES 11-716 1A14A 01+112+S12 N25+AT11 (ORBITER) (11034)

SYNOPSIS
000000

BETA
-8.000
-4.000
.000
4.000
8.000

PARAMETRIC VALUES
MACH
RUDER
ELEVON
SPOONK

.000
.000

REFERENCE INFORMATION
SREF 2.4210
LREF 38.7050
BREF 38.7050
XMRP .0000
YMRP .0000
ZMRP 9.9900
SCALE .0300

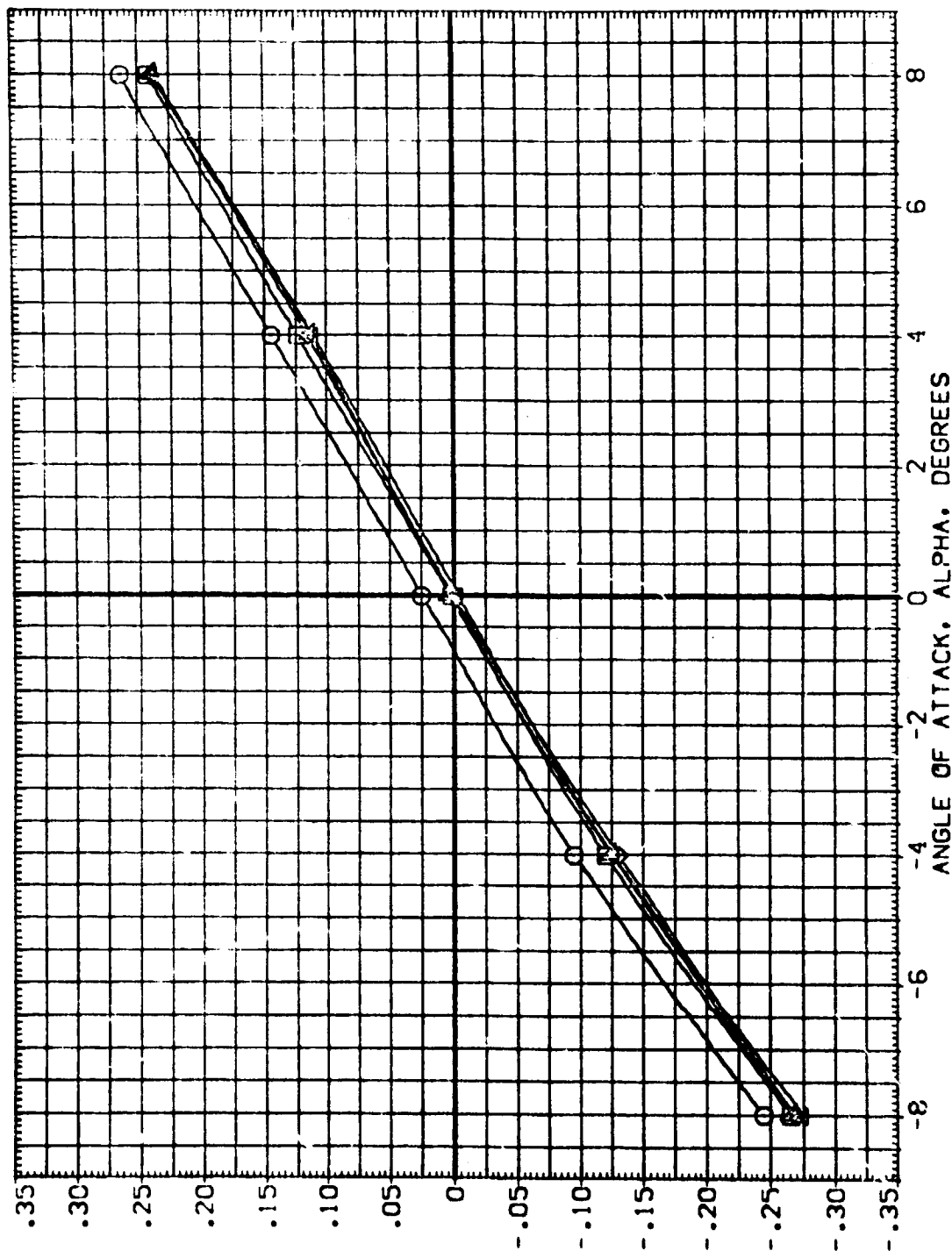


FIG. 29 LVAP (01 112 S12 N25 AT11) • MACH = .6 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1034)

SYMBOL
 ○
 ◇
 △
 ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 .597 ELEVON
 .000 SPOILER

MACH
 .000
 .000

RUDER

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

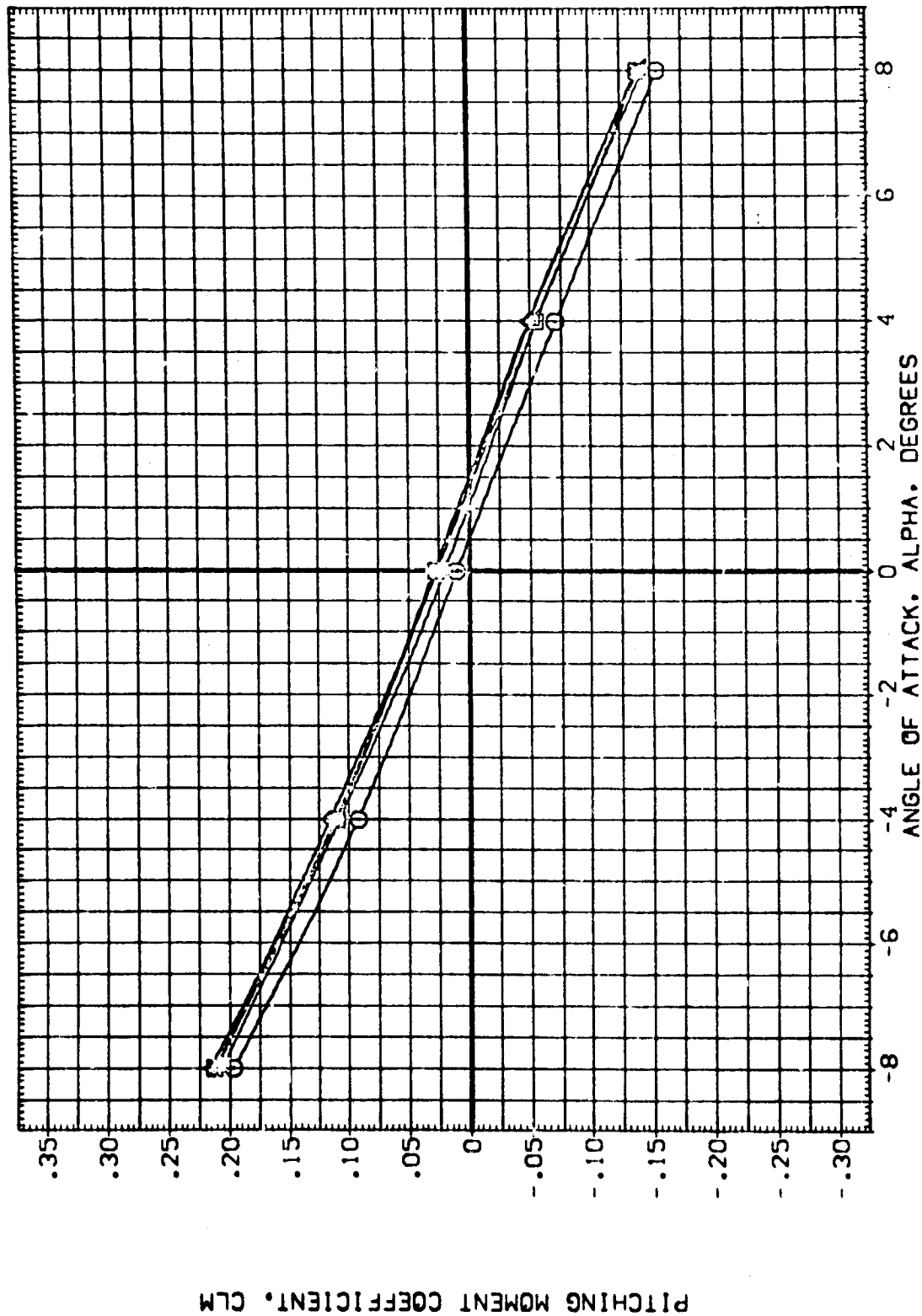


FIG. 29 LVAP (01 T12 S12 N25 AT11) • MACH = .6 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1J1034)

SYMBOL
O
◇
△
▽

BETA
-8.000
-4.000
.000
4.000
8.000

MACH
RUDDER

PARAMETRIC VALUES
.597 ELEVON
.000 SPOBRK

.000
.000

REFERENCE INFORMATION
SREF 2.4210 SQ.FT.
LREF 38.7090 IN.
BREF 38.7090 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.5900 IN.
SCALE .0300

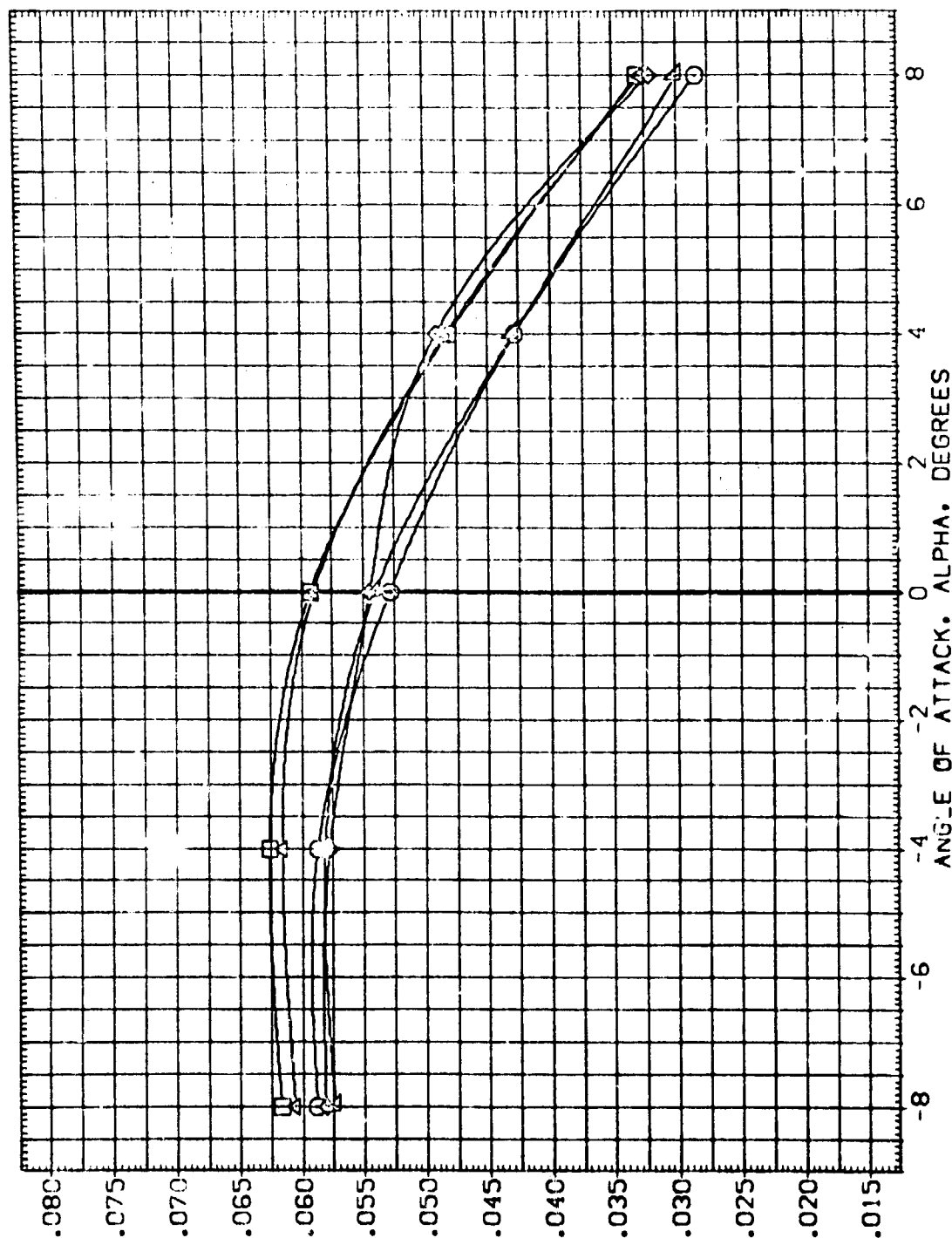


FIG. 29 LVAP (01 T12 S12 N25 AT11) , MACH = .6 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1034)

SYMBOL
 ○
 ◇
 △
 □

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 0.000
 0.000
 0.000
 0.000
 0.000

PARAMETRIC VALUES
 .597
 .000
 .000
 .000
 .000

ELEVON
 .000
 .000
 .000
 .000
 .000

SPDRK
 .000
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

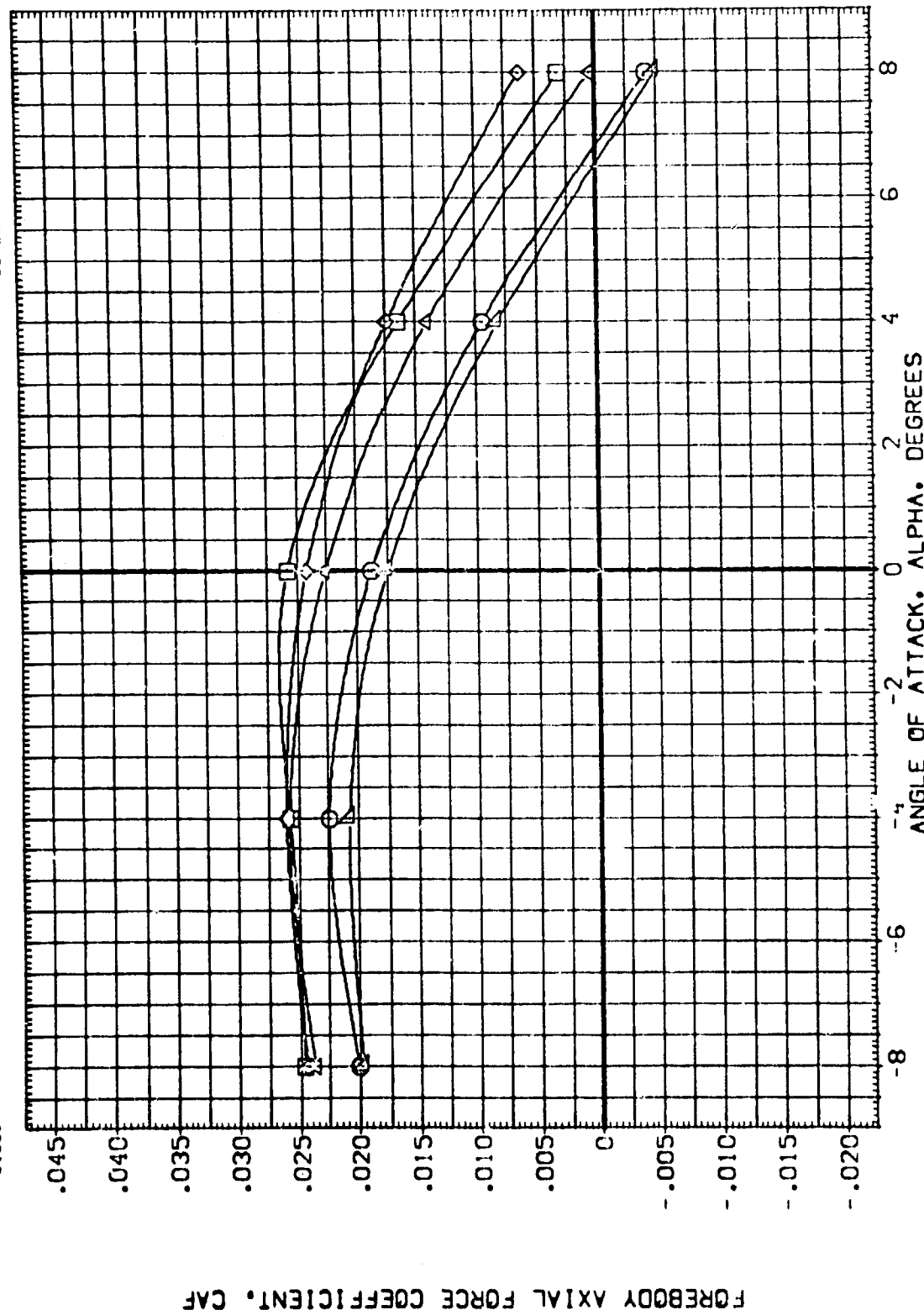


FIG. 29 LVAP (01 T12 S12 N25 AT11) • MACH = .6 (ORBITER BALANCE)

AMES 11-716 1A14A 01+112+S12 N25+AT11 (ORBITER) (.81034)

SYMBOL
 ○ □ ◇ △ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .597
 RUDDER .000
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

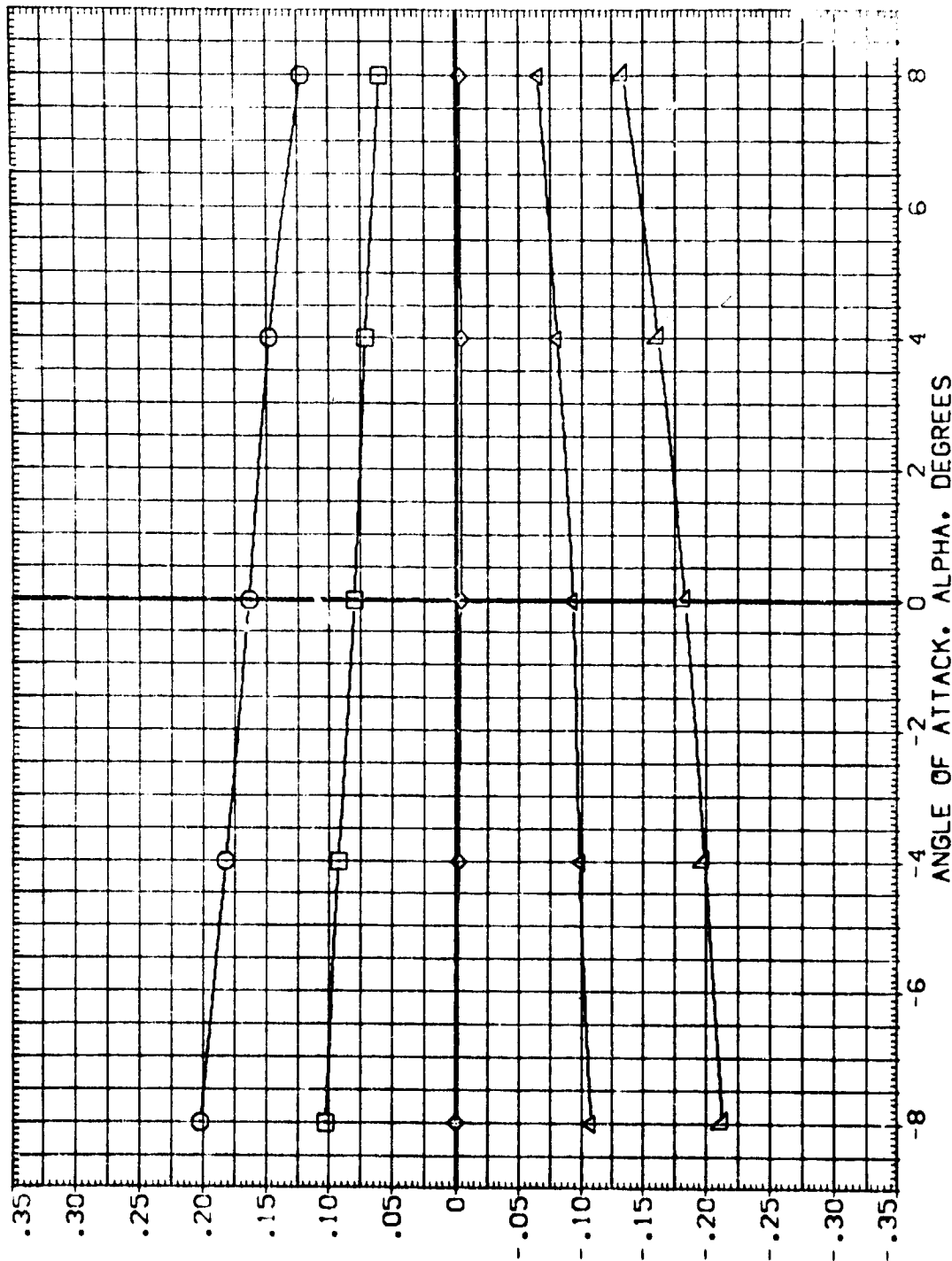


FIG. 29 LVAP (01 112 S12 N25 AT11) , MACH = .6 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (IB1034)

SYMBOL	BETA		MACH		PARAMETRIC VALUES		REFERENCE INFORMATION	
	-8.000	.000	RUDDER	ELEVON	.557	.000	SREF	50.F.T.
○	-4.000	.000					LREF	38.7090
□	.000	.000					BREF	38.7090
◇	4.000	.000					XMRP	.0000
△	8.000	.000					YMRP	.0000
▽							ZMRP	9.0000
							SCALE	.0000

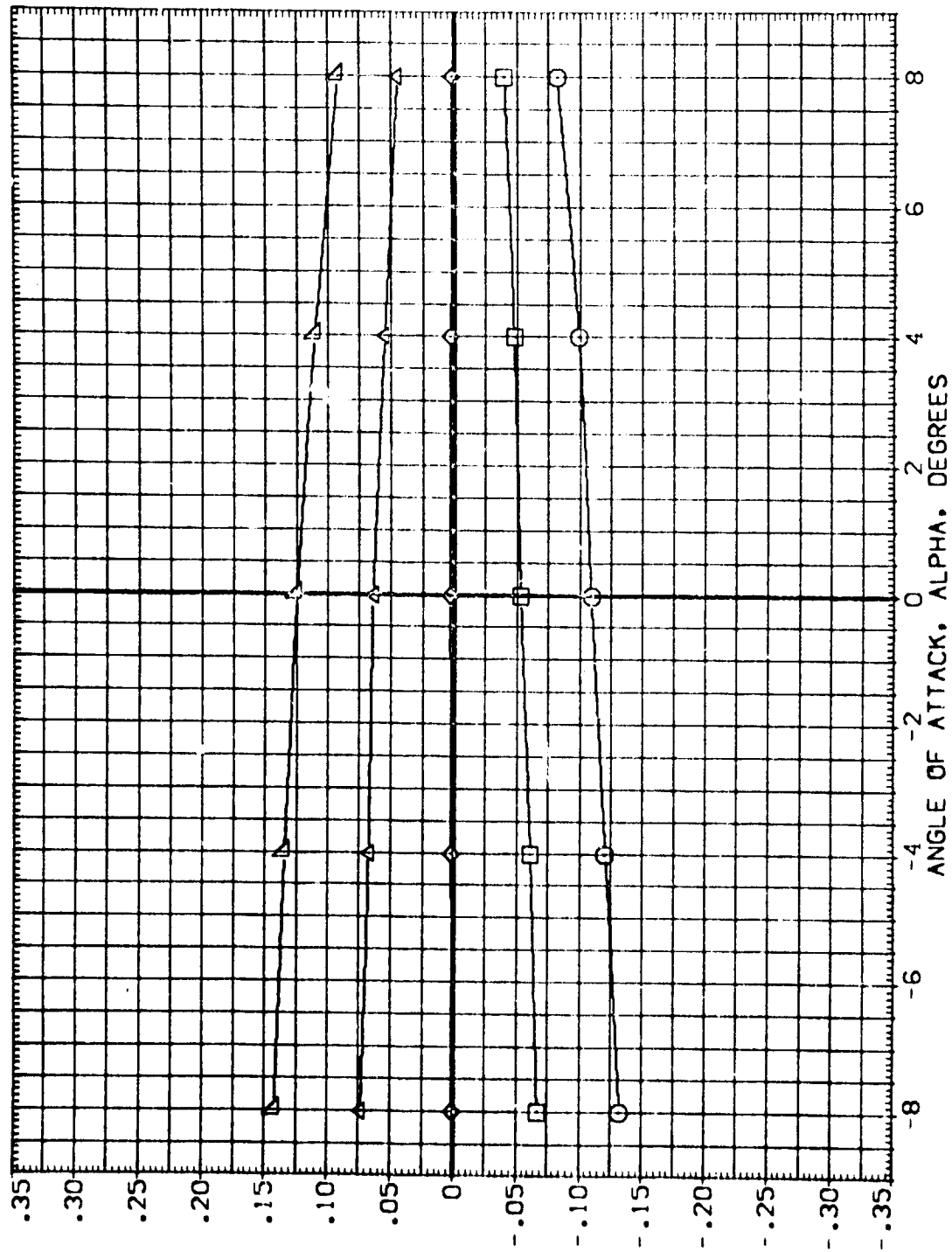


FIG. 29 LVAP (01 T12 S12 N25 AT11), MACH = .5 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (IB1034)

SYMBOL	PARAMETRIC VALUES		REFERENCE INFORMATION	
	BETA	MACH	SDEF	SO.F.T.
○	-8.000	.597	LREF	2.4210
□	-4.000	.000	BREF	38.7090
◇	.000	.000	XREF	38.7090
△	1.000	.000	YREF	.0000
▽	8.000	.000	ZREF	9.9900
			SCALE	.0300

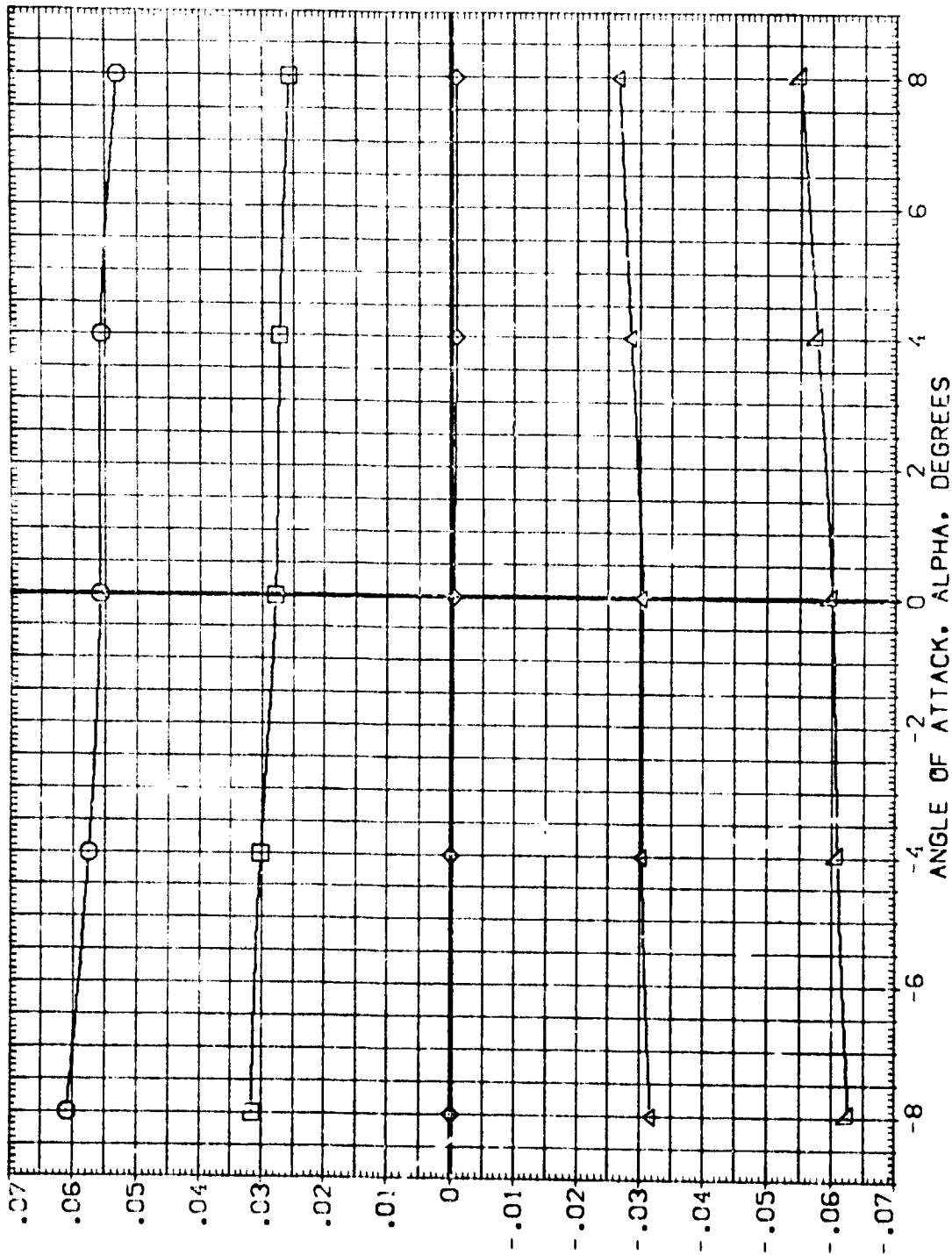
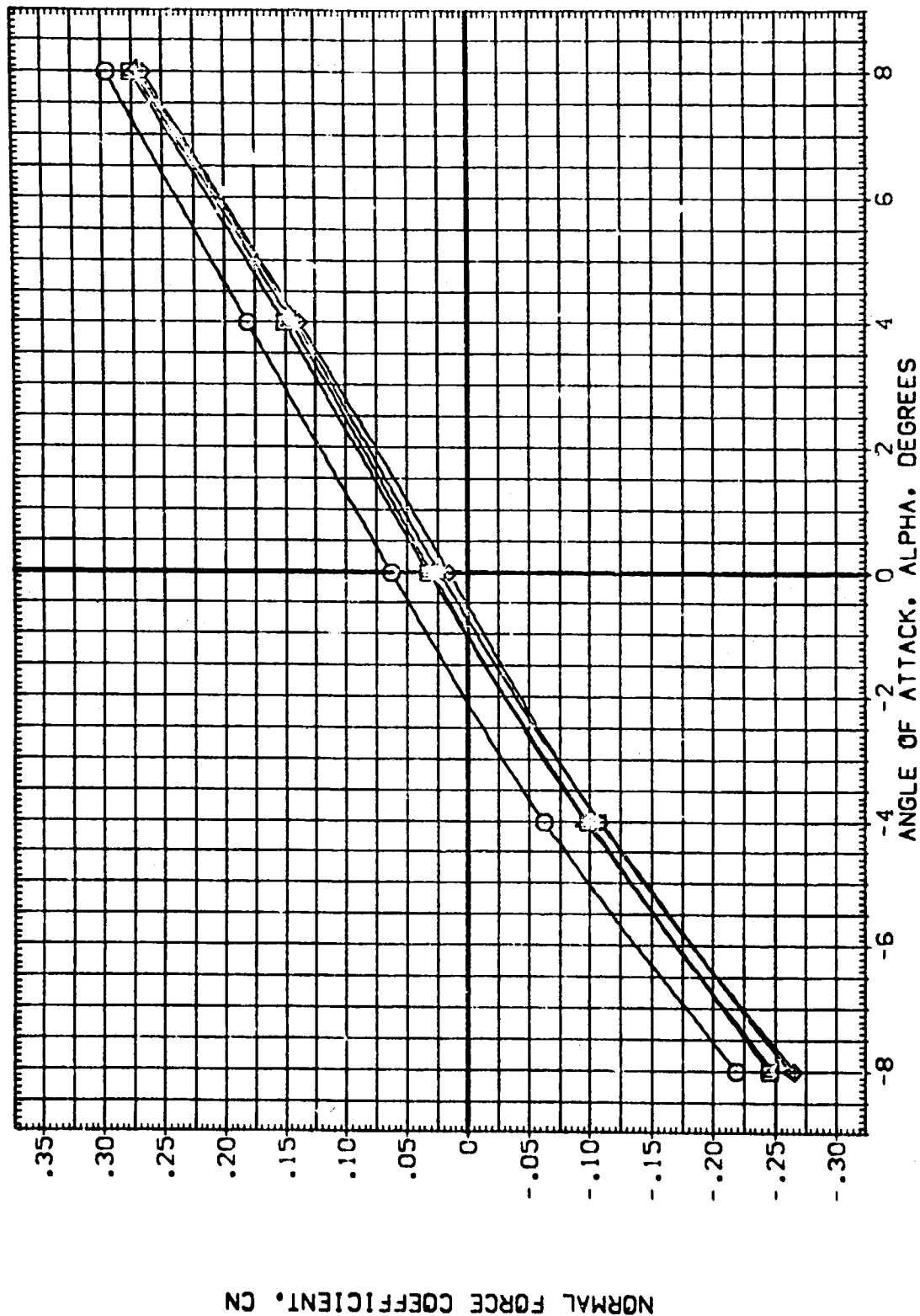


FIG. 29 LVAP (01 T12 S12 N25 AT11) • MACH = .6 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1035)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	BETA	MACH	R.ODER	SREF	LREF	SO.FT.
○	-8.000	.749	.000	38.7050	38.7050	IN.
◇	-4.000	.000	.000	38.7050	38.7050	IN.
△	.000	.000	.000	38.7050	38.7050	IN.
▽	4.000	.000	.000	38.7050	38.7050	IN.
○	8.000	.000	.000	38.7050	38.7050	IN.
				9.9900	9.9900	SCALE
				.0300		



AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (IB1035)

SYMBOL
 ○
 △
 ◇
 ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .749
 RUDDER .000
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210 SQ. FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

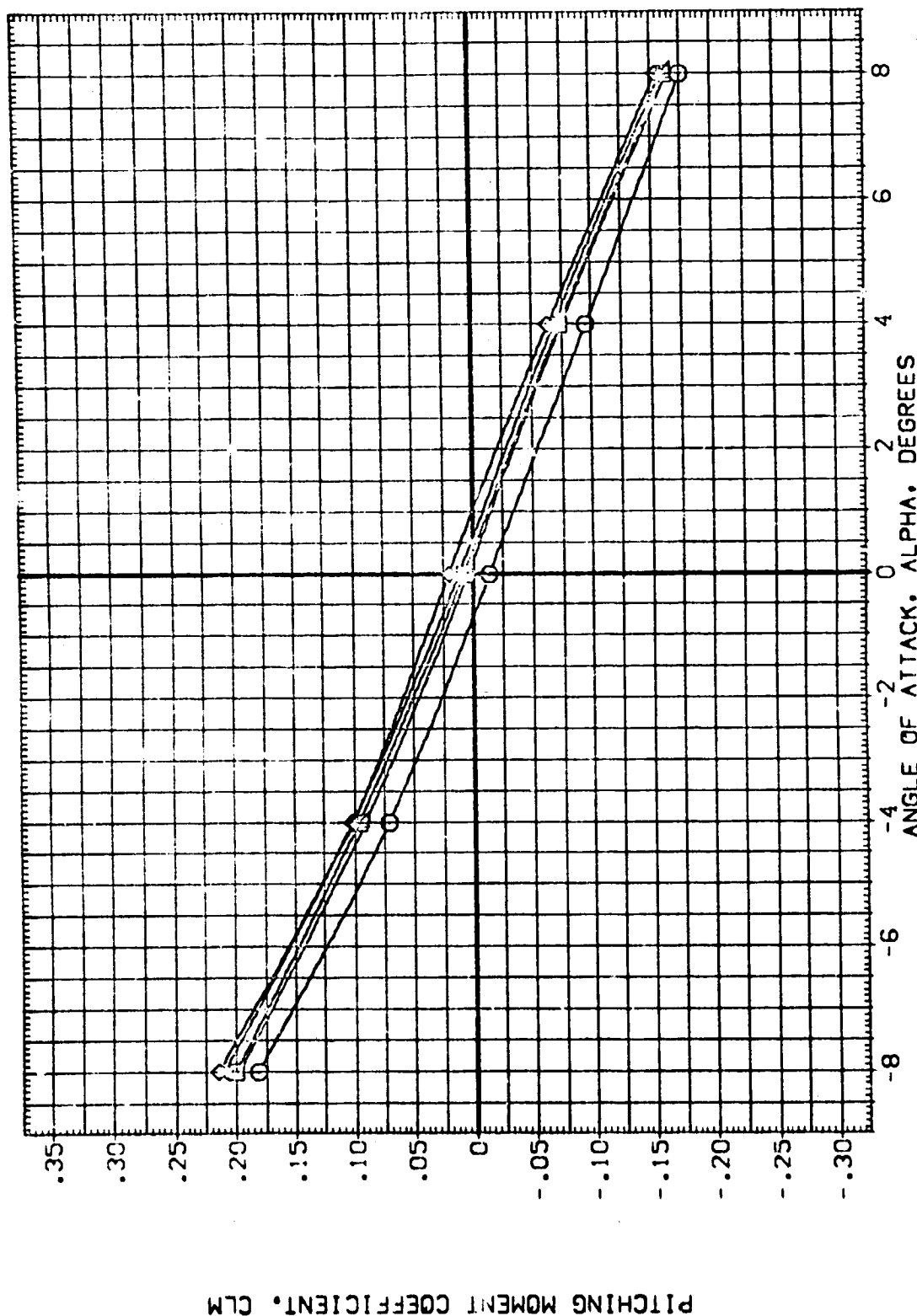


FIG. 30 LVAP (01 T12 S12 N25 AT11) , MACH = .75 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1035)

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000
 MACH .749
 ELEVON .000
 RUDDER .000
 SPDRK .000

SYMBOL
 □ □ ◇ △

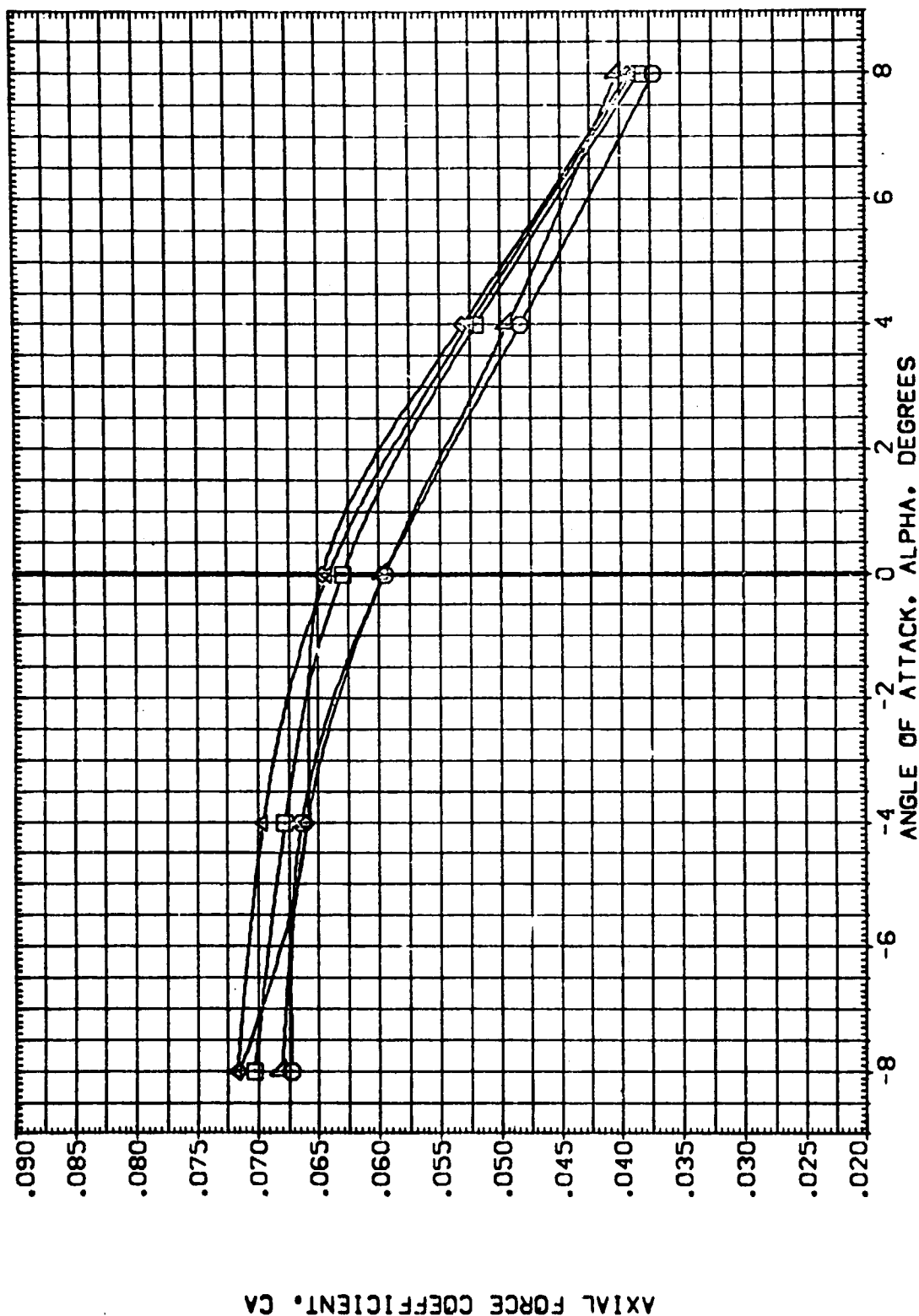


FIG. 30 LVAP (01 T12 S12 N25 AT11) . MACH = .75 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1035)

SYMBOL
 -8.000
 -4.000
 .000
 4.000
 8.000

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 .749
 .000
 .000
 .000
 .000

MACH
 .000
 .000
 .000
 .000
 .000

ELEVON
 .000
 .000
 .000
 .000
 .000

SPORCK
 .000
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 2.4210
 38.7090
 38.7090
 .0000
 .0000
 9.9900
 .0300

SREF
 LREF
 BREF
 XMRP
 YMRP
 ZMRP
 SCALE

SO.FY.
 N:
 N:
 N:
 N:
 N:
 N:

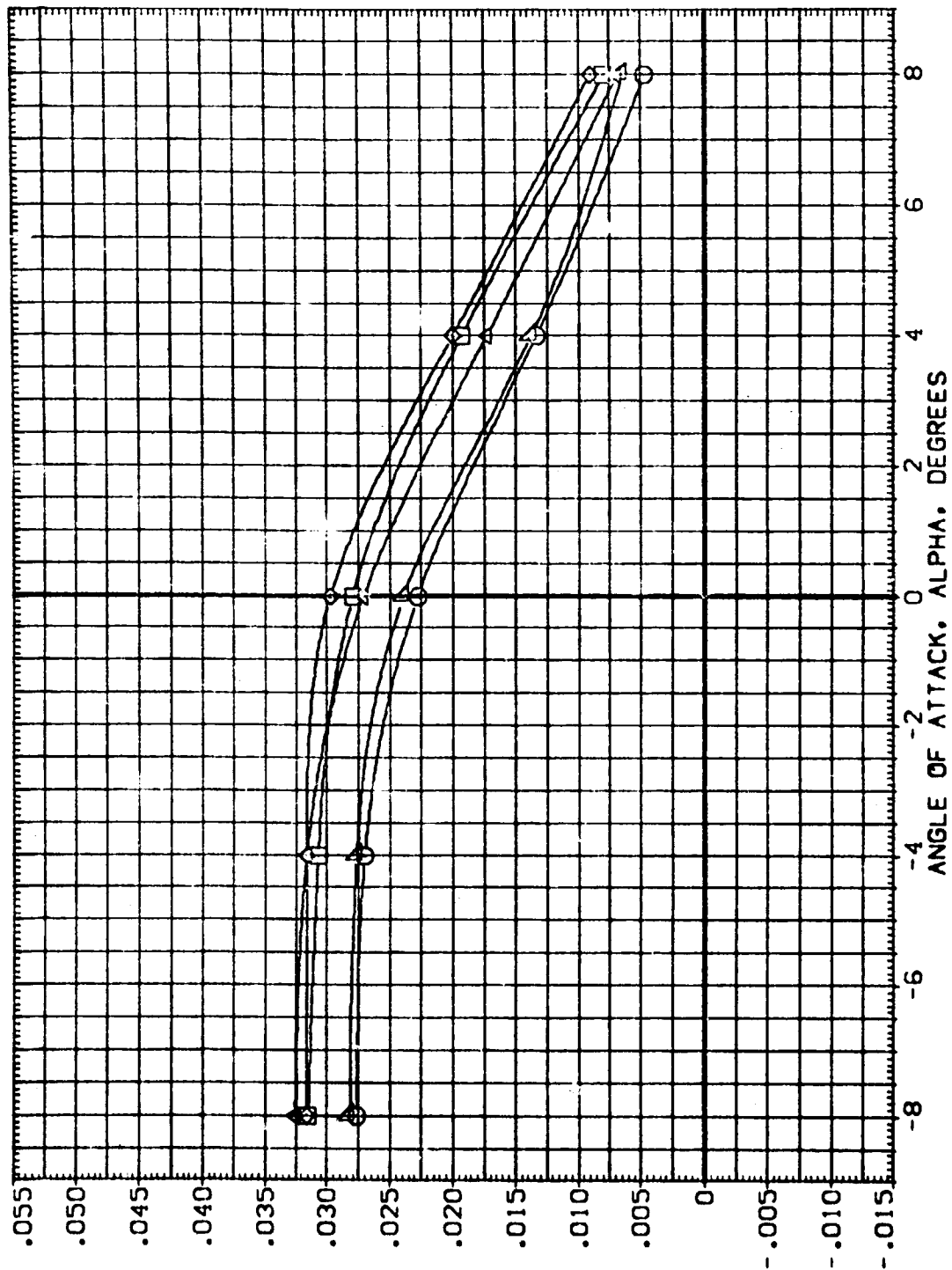


FIG. 30 LVAP (01 T12 S12 N25 AT11) , MACH = .75 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1035)

SYMBOL
 ○ □ ◇ △ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 .749
 .000
 .000
 .000
 .000

ELEVON
 .000
 .000
 .000
 .000
 .000

RUDER
 .000
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

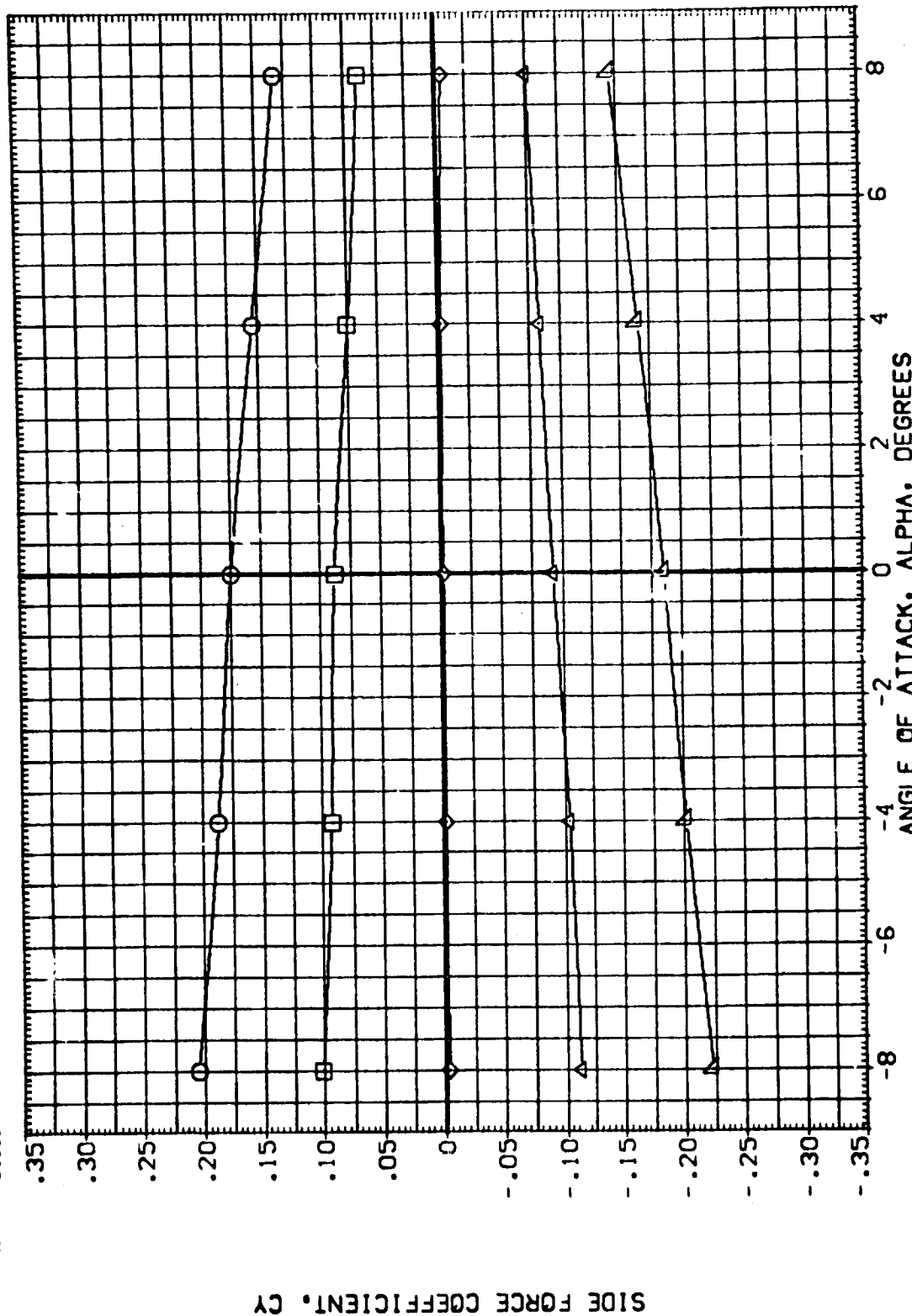


FIG. 30 LVAP (01 T12 S12 N25 AT11) . MACH = .75 (ORBITER BALANCE)

AMES 11-16 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1035)

SYMBOL	BETA	MACH	PARAMETRIC VALUES	REFERENCE INFORMATION
□	-8.000	RUIXER	.749 ELEVON .000	SREF 2.4210 SQ. FT.
◇	-4.000		.000 SPOBRK .000	LREF 38.7090
◇	.000			BREF 38.7090
◇	4.000			XMRP .0000
◇	8.000			YMRP .0000
				ZMRP 9.9900
				SCALE .0300

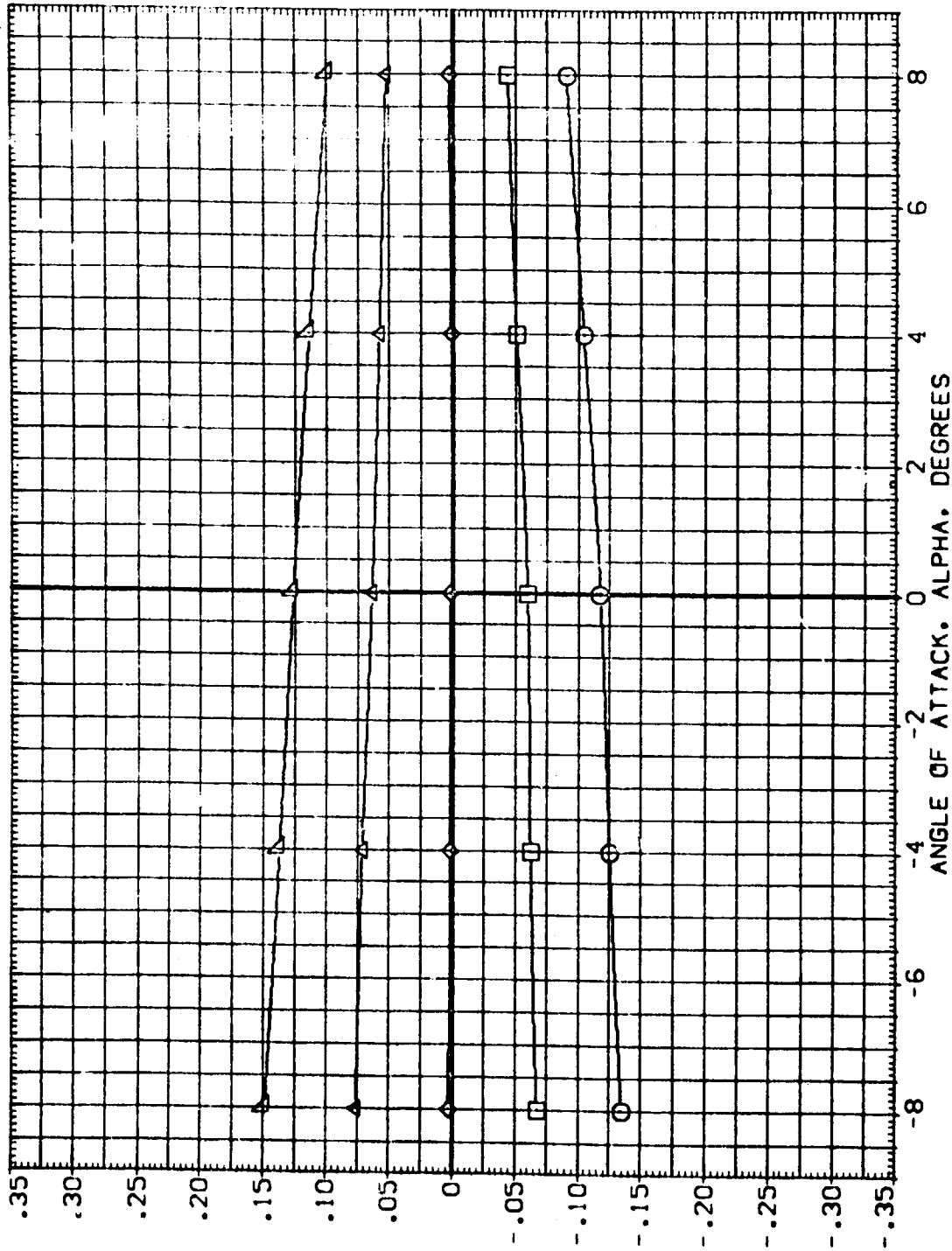


FIG. 30 LVAP (01 T12 S12 N25 AT11) , MACH = .75 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (181035)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .749
 RUDDER .000
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7050
 BREF 38.7050
 XMRP .0000
 YMRP .0000
 ZMRP 9.9500
 SCALE .0300

ROLLING MOMENT COEFFICIENT, CBL (BODY AXIS)

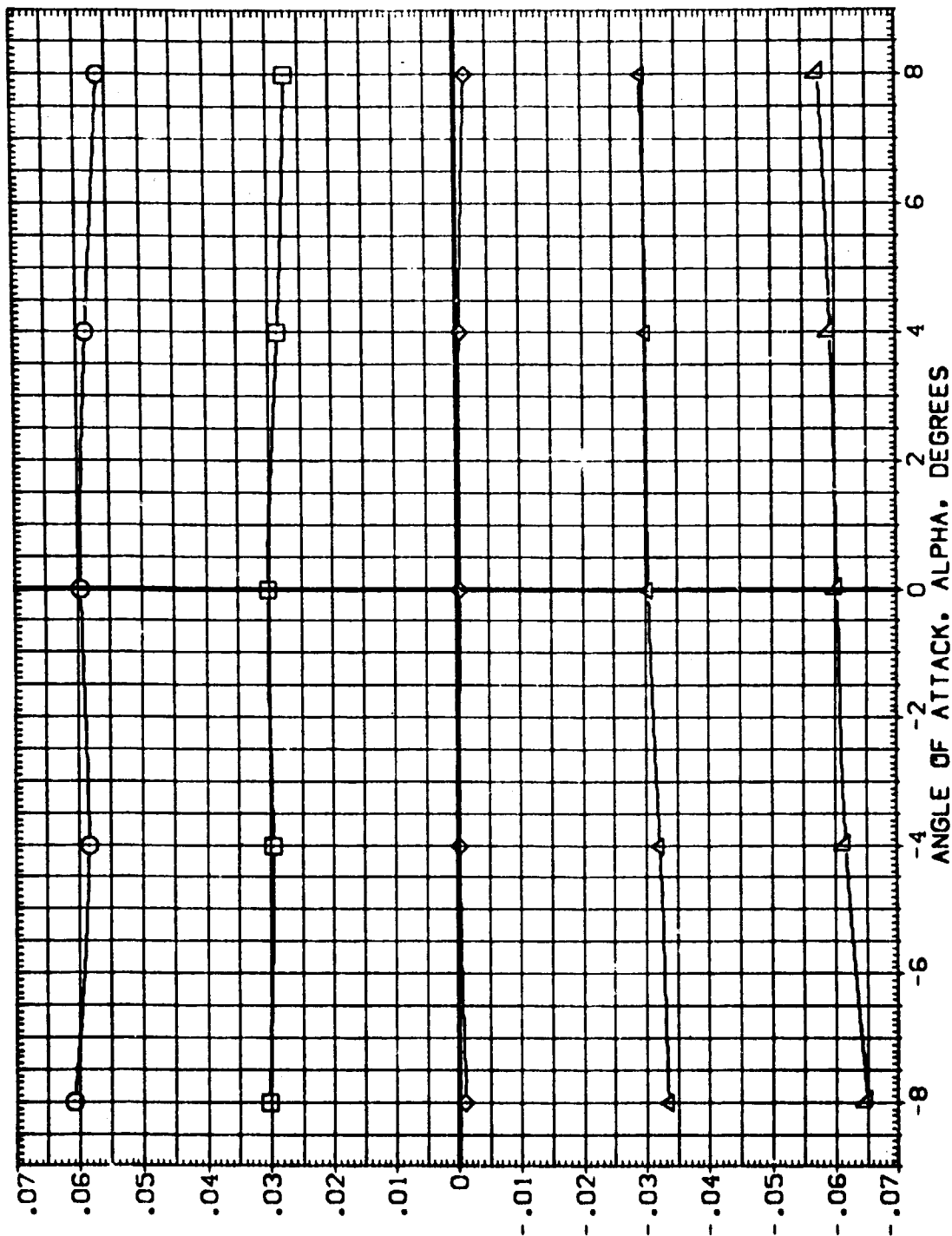


FIG. 30 LVAP (01 T12 S12 N25 AT11) , MACH = .75 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1036)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .849
 ELEVON .000
 SPOBRK .000

.000
 .000

SREF
 LREF
 BREF
 XMRP
 YMRP
 ZMRP
 SCALE

REFERENCE INFORMATION
 2.4210
 38.7090
 38.7090
 .0000
 .0000
 9.9900
 .0300

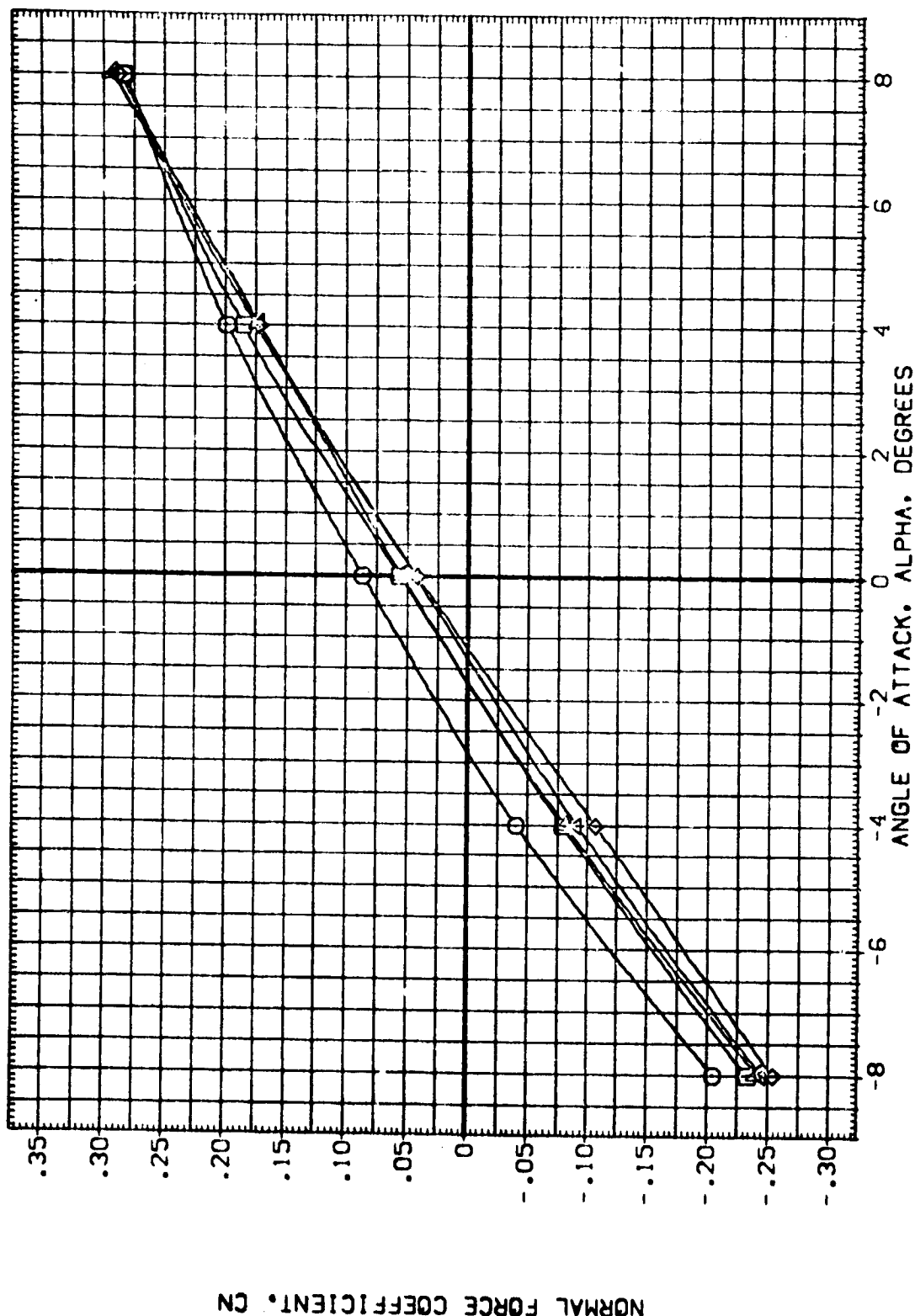


FIG. 31 LVAP (01 T12 S12 N25 AT11) . MACH = .85 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1036)

SYMBOL	BETA	MACH	PARAMETRIC VALUES	REFERENCE INFORMATION	SO.FT.
◇	-8.000		.849 ELEVON	SREF	2.4210
◇	-4.000	RUDDER	.000 SPOBRK	LREF	38.7050
◇	.000			BREF	38.7050
◇	4.000			XMRP	.0000
◇	8.000			YMRP	.0000
				ZMRP	9.9500
				SCALE	.0300

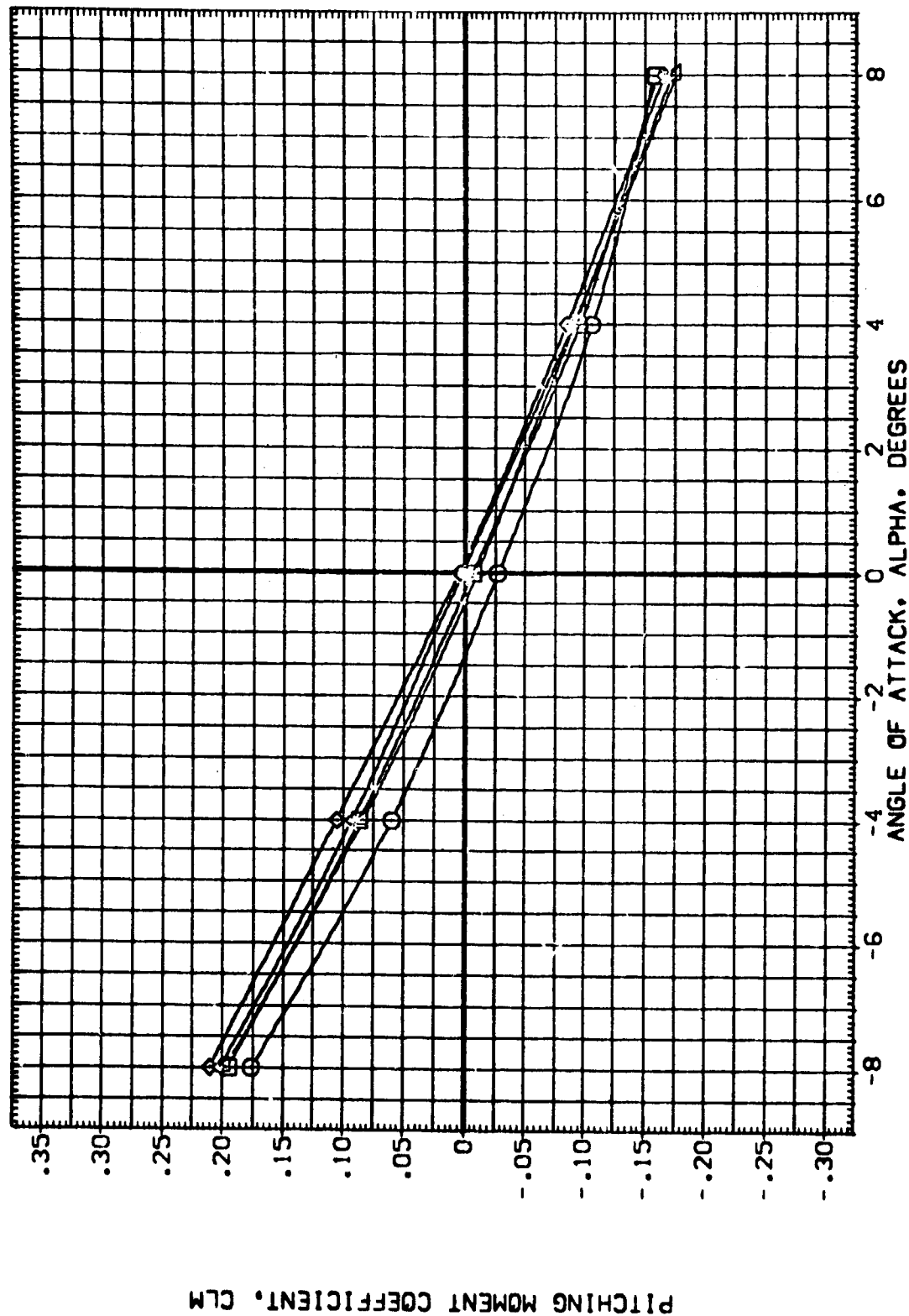


FIG. 31 LVAP (01 T12 S12 N25 AT11) , MACH = .85 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1036)

SYMBOL	PARAMETRIC VALUES		REFERENCE INFORMATION	
	BETA	MACH	SREF	SO.FT.
□	-8.000	.049	LREF	IN.
◇	-4.000	.000	BREF	IN.
◇	.000	.000	XMRP	IN.
◇	4.000	.000	YMRP	IN.
◇	8.000	.000	ZMRP	IN.
			SCALE	.0300

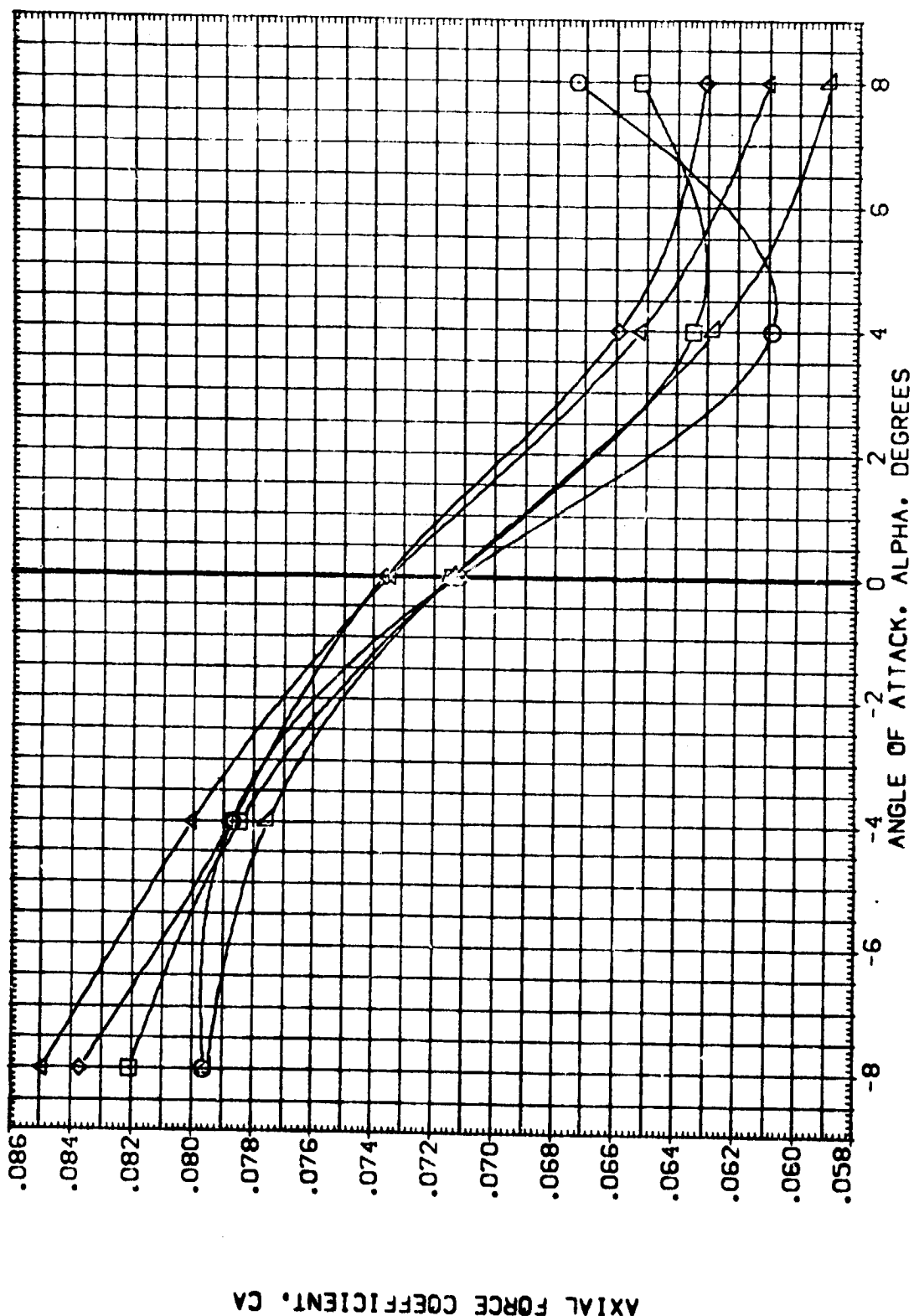


FIG. 31 LVAP (01 T12 S12 N25 AT11), MACH = .85 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1036)

SYMBOL
 ○ □ ◇ △ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .849 ELEVON
 .000 SPOBRK

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.8900 IN.
 SCALE .0300

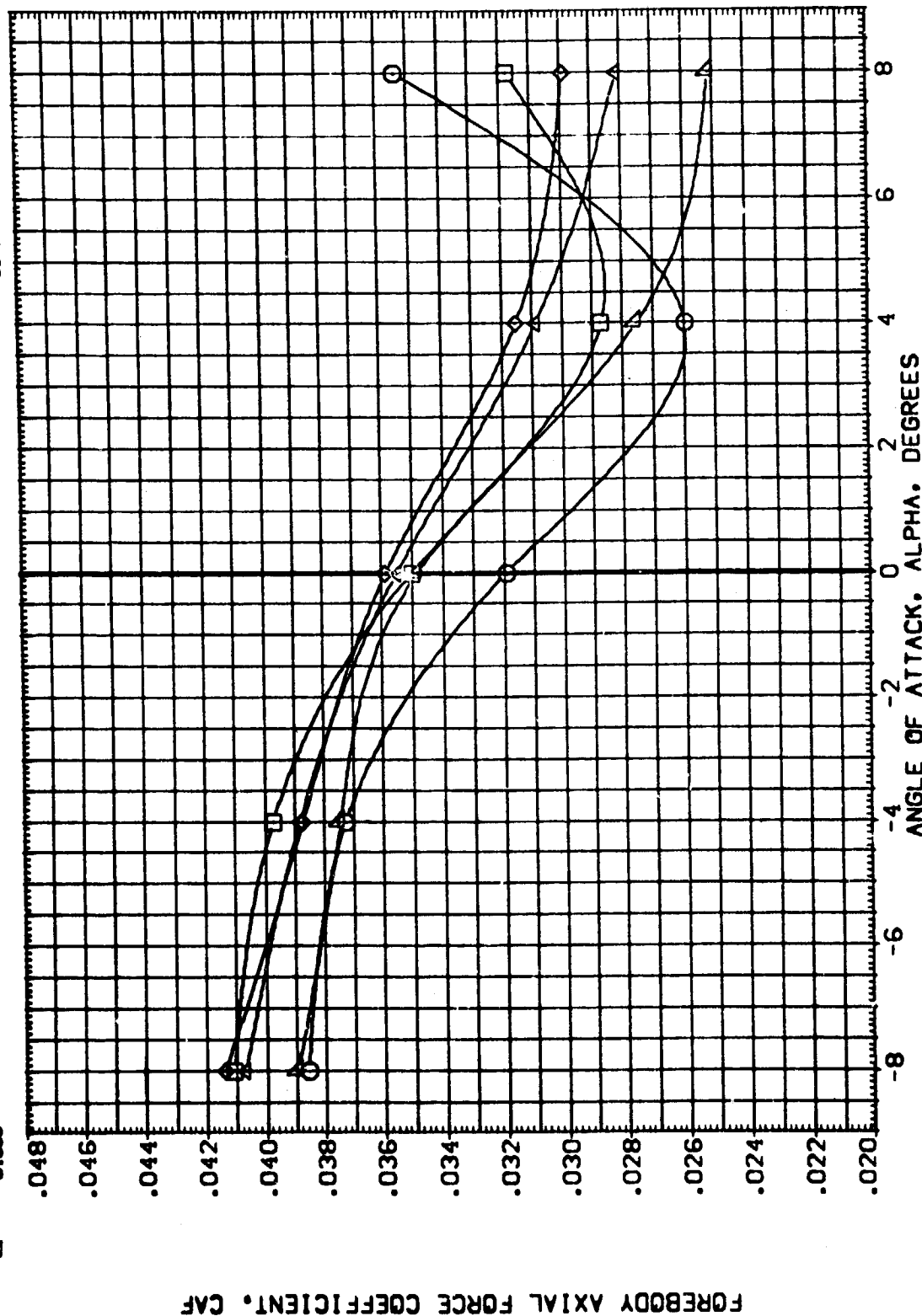


FIG. 31 LVAP (01 T12 S12 N25 AT11) , MACH = .85 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1036)

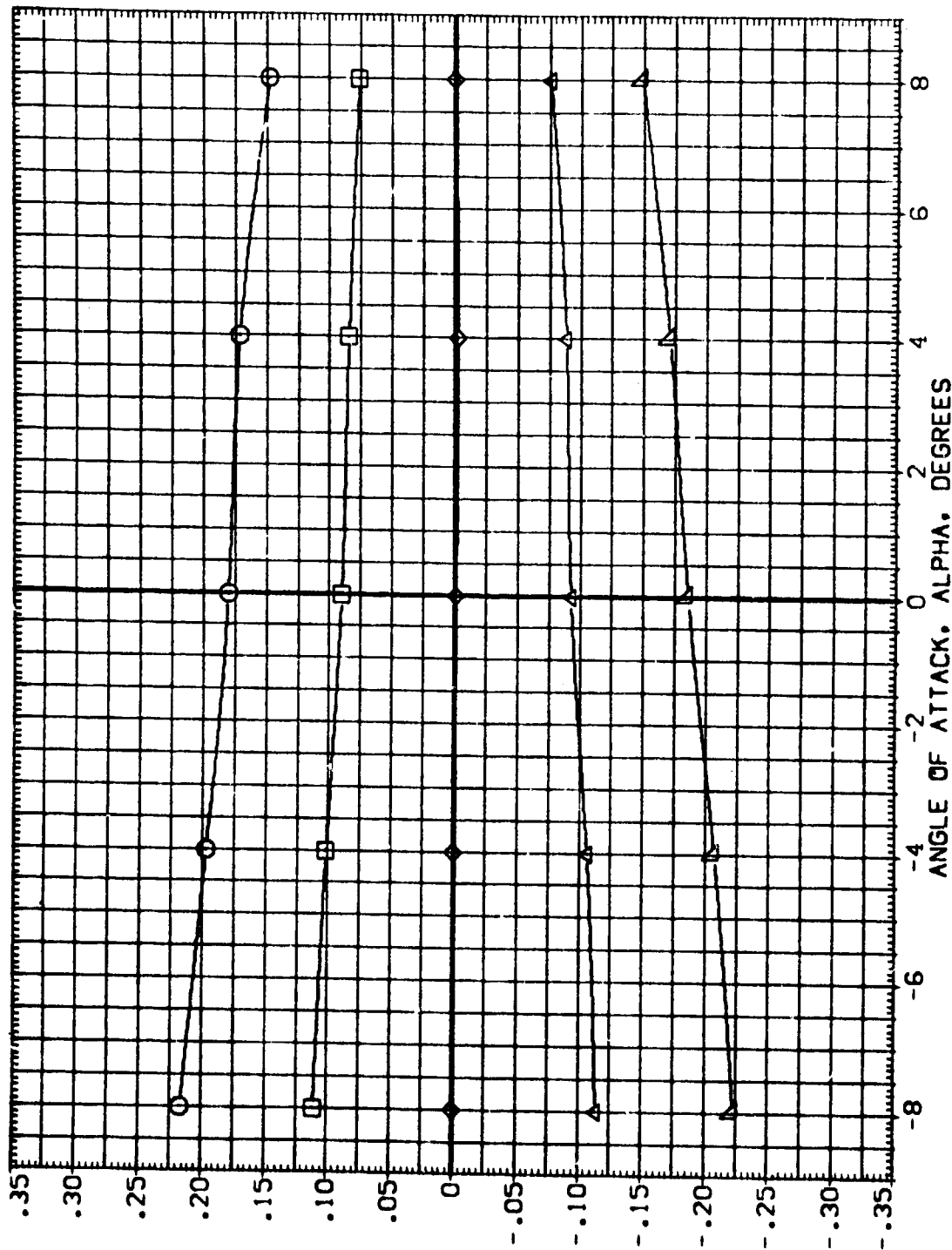
SYMBOL

BETA
-8.000
-4.000
.000
4.000
8.000

PARAMETRIC VALUES
MACH .849
ELEVON .000
SPDRK .000

.000
.000

REFERENCE INFORMATION
SREF 2.4210 50.FT.
LREF 38.7090 IN.
BREF 38.7090 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.5900 IN.
SCALE .0300



SIDE FORCE COEFFICIENT, CY

FIG. 31 LVAP (01 T12 S12 N25 AT11) , MACH = .85 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (IB1036)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .849
 RUDDER .000
 ELEVON .000
 SPOON .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

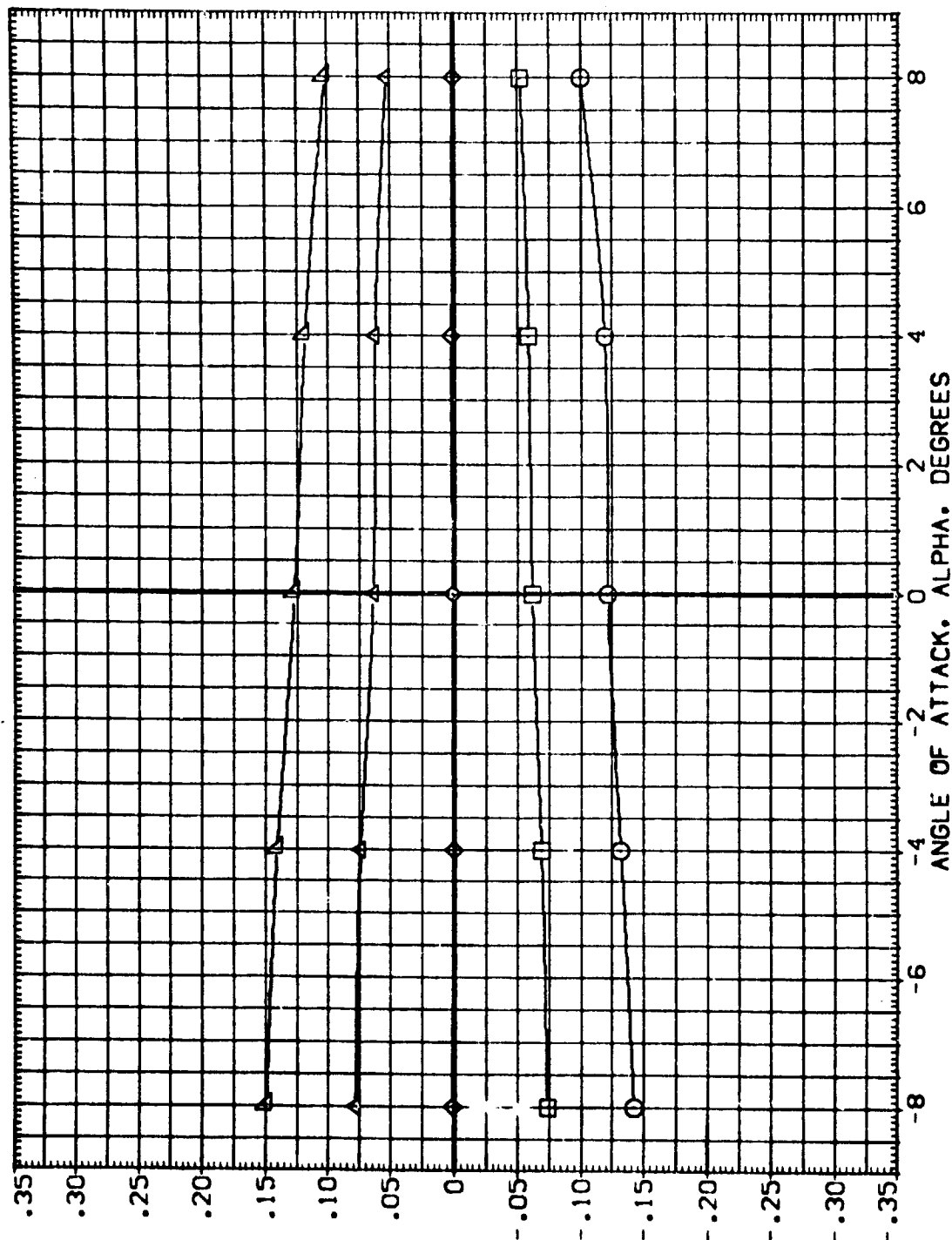


FIG. 31 LVAP (01 T12 S12 N25 AT11) . MACH = .85 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1036)

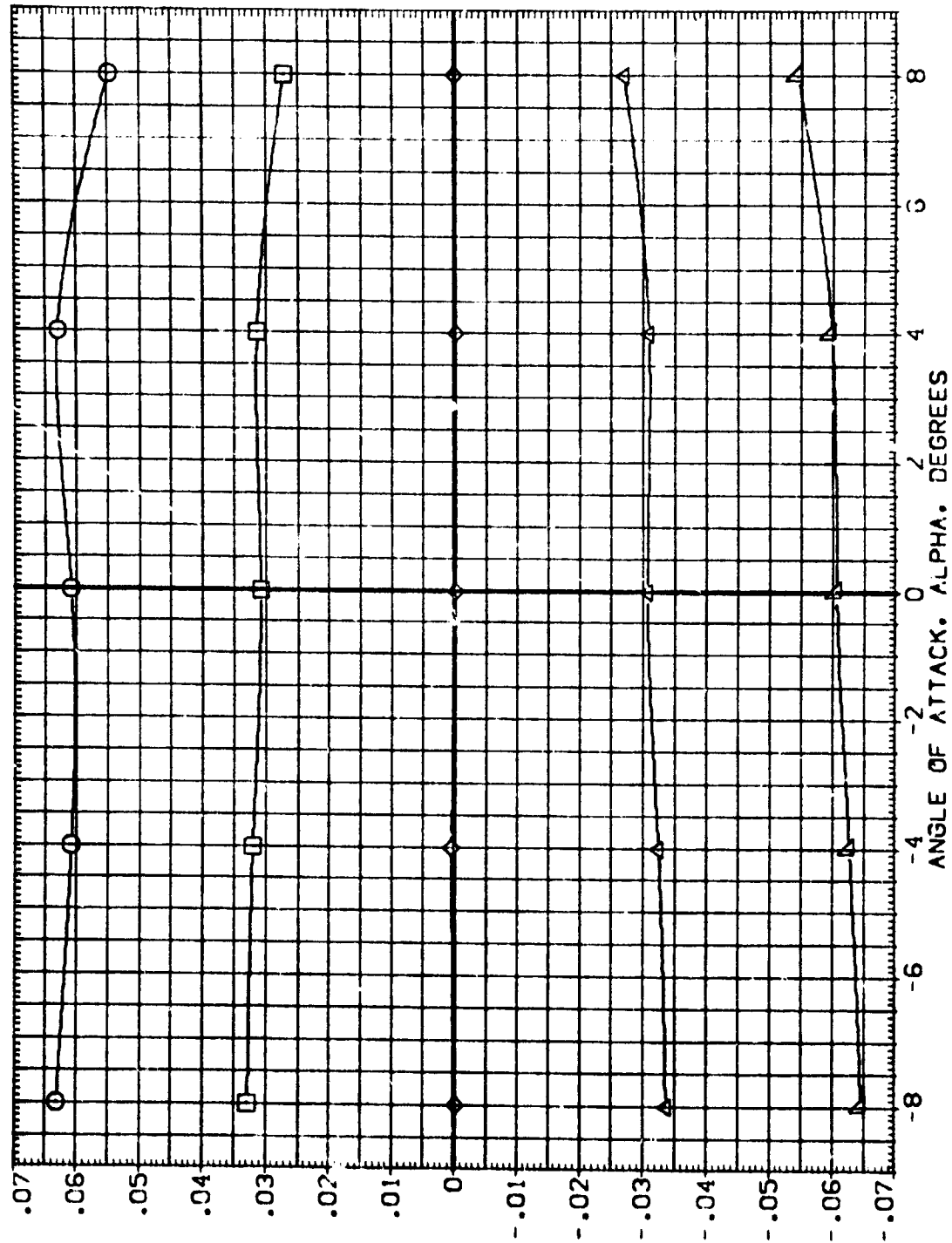
SYMBOL
○ □ ◇ △

BETA
-8.000
-4.000
.000
4.000
8.000

PARAMETRIC VALUES
MACH .849
ELEVON .000
SPDRK .000

ROLLER .000

REFERENCE INFORMATION
SREF 2.4210
LREF 38.7090
BREF 38.7090
XPRP .0000
YPRP .0000
ZPRP 9.9900
SCALE .0300



ROLLING MOMENT COEFFICIENT, CBL (BODY AXIS)

FIG. 31 LVAP (01 T12 S12 N25 AT11) , MACH = .85 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1037)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER
 .955
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 SPOBRK
 .000
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XPRP .0000 IN.
 YPRP .0000 IN.
 ZPRP 9.9500 IN.
 SCALE .0300

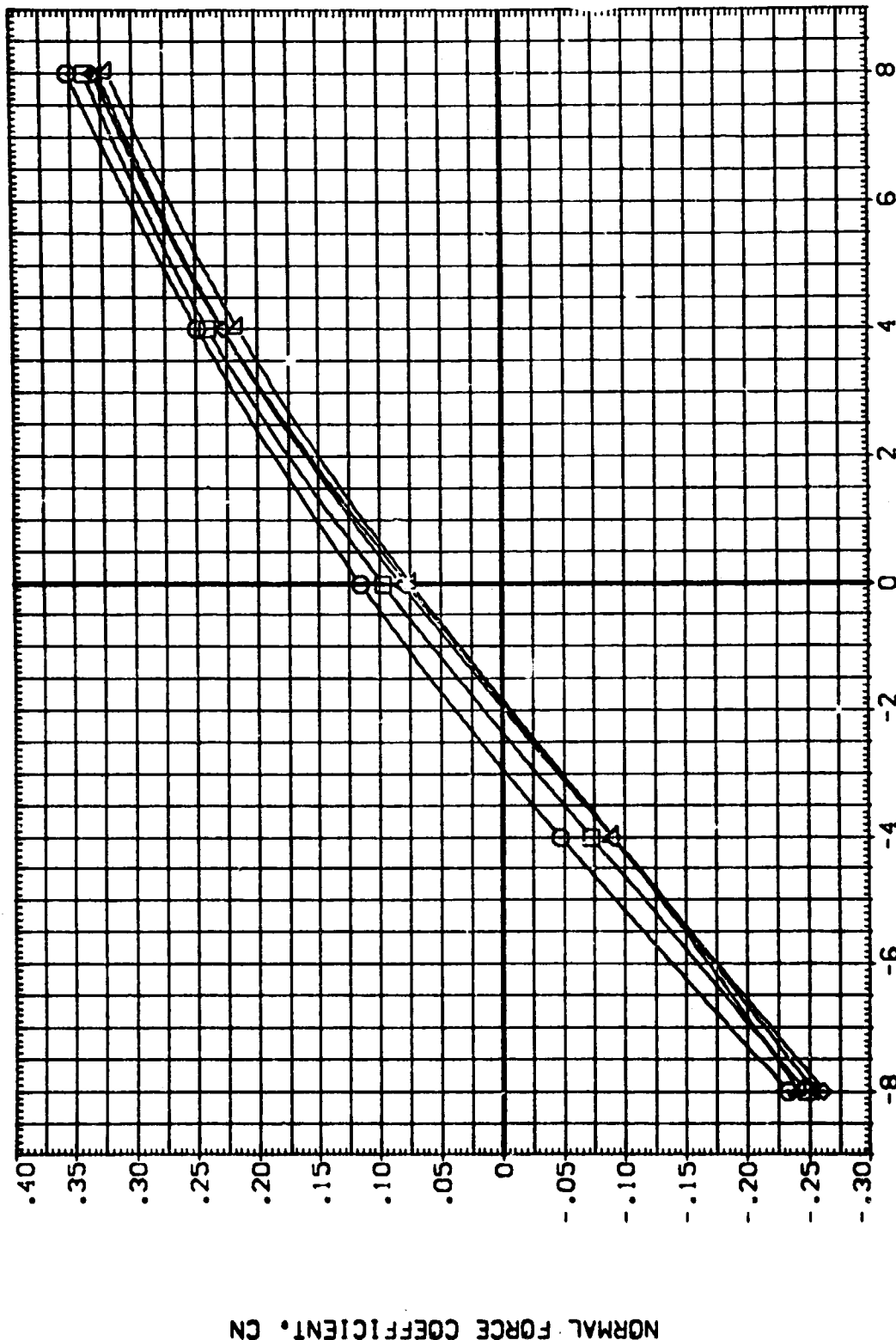


FIG. 32 LVAP (01 T12 S12 N25 AT11) , MACH = .95 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (181037)

SYMBOL
 ▽
 ◇
 □
 ○

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .955
 ELEVON .000
 SPOILER .000

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210 50.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

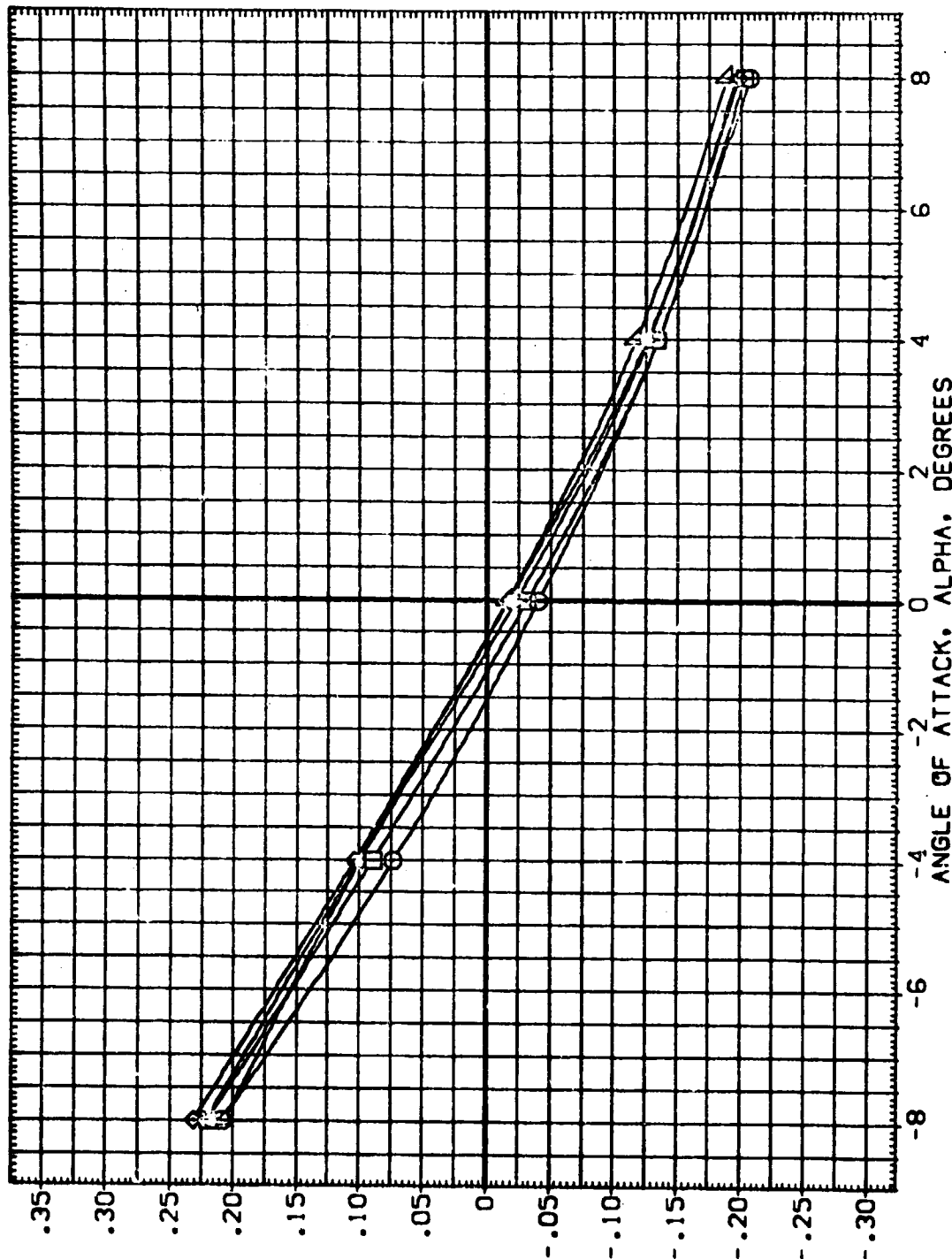


FIG. 32 LVAP (01 T12 S12 N25 AT11), MACH = .95 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (IB1037)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	BETA	MACH	RUDDER	SREF	LREF	SO.FT.
○	-8.000	.555	ELEVON	38.7050	38.7050	IN.
□	-4.000	.000	SPOBRK	38.7050	38.7050	IN.
◇	.000	.000		38.7050	38.7050	IN.
△	4.000	.000		38.7050	38.7050	IN.
▽	8.000	.000		38.7050	38.7050	IN.

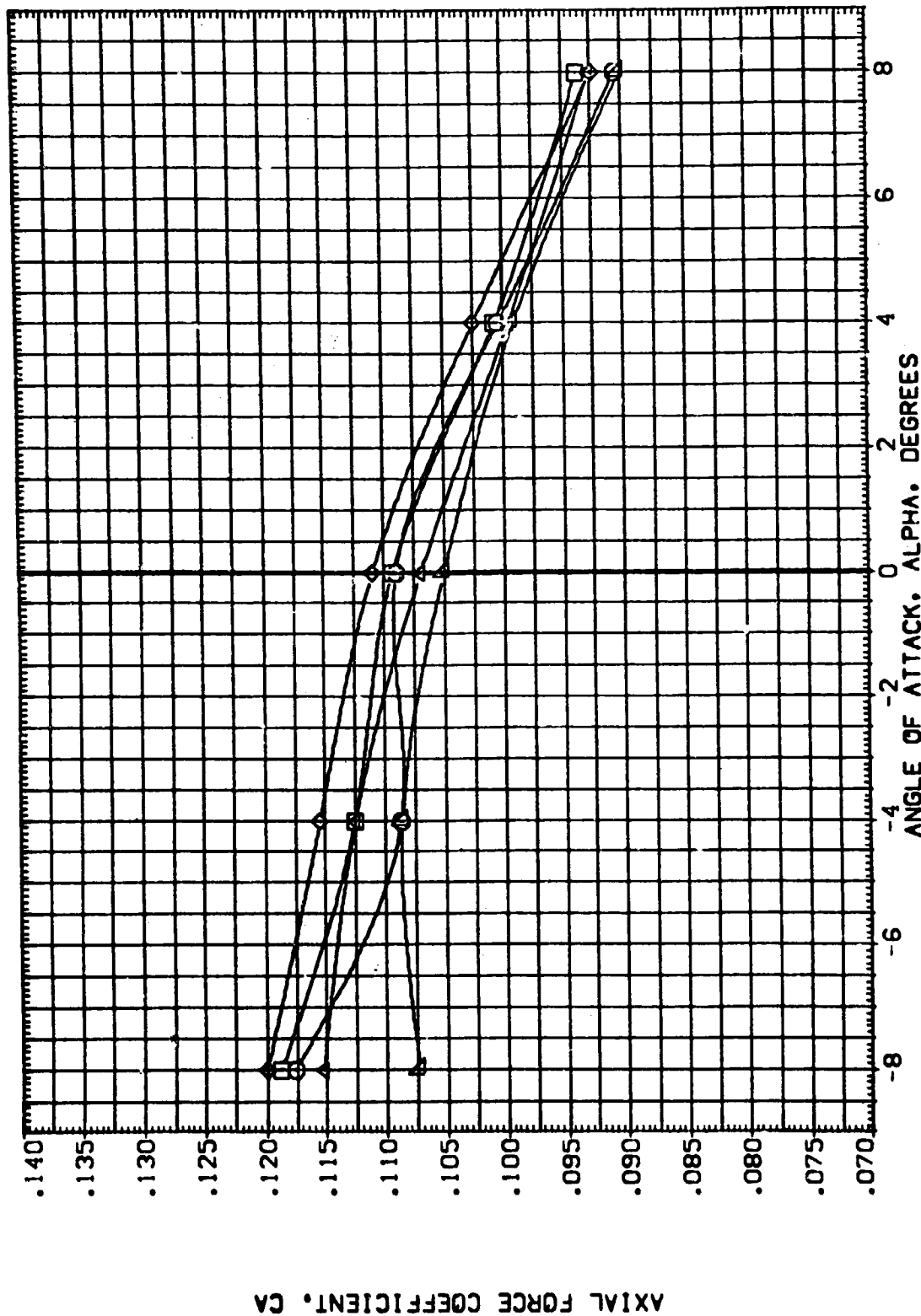


FIG. 32 LVAP (01 T12 S12 N25 AT11) , MACH = .95 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1037)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .555 ELEVON
 .000 SPOILER

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

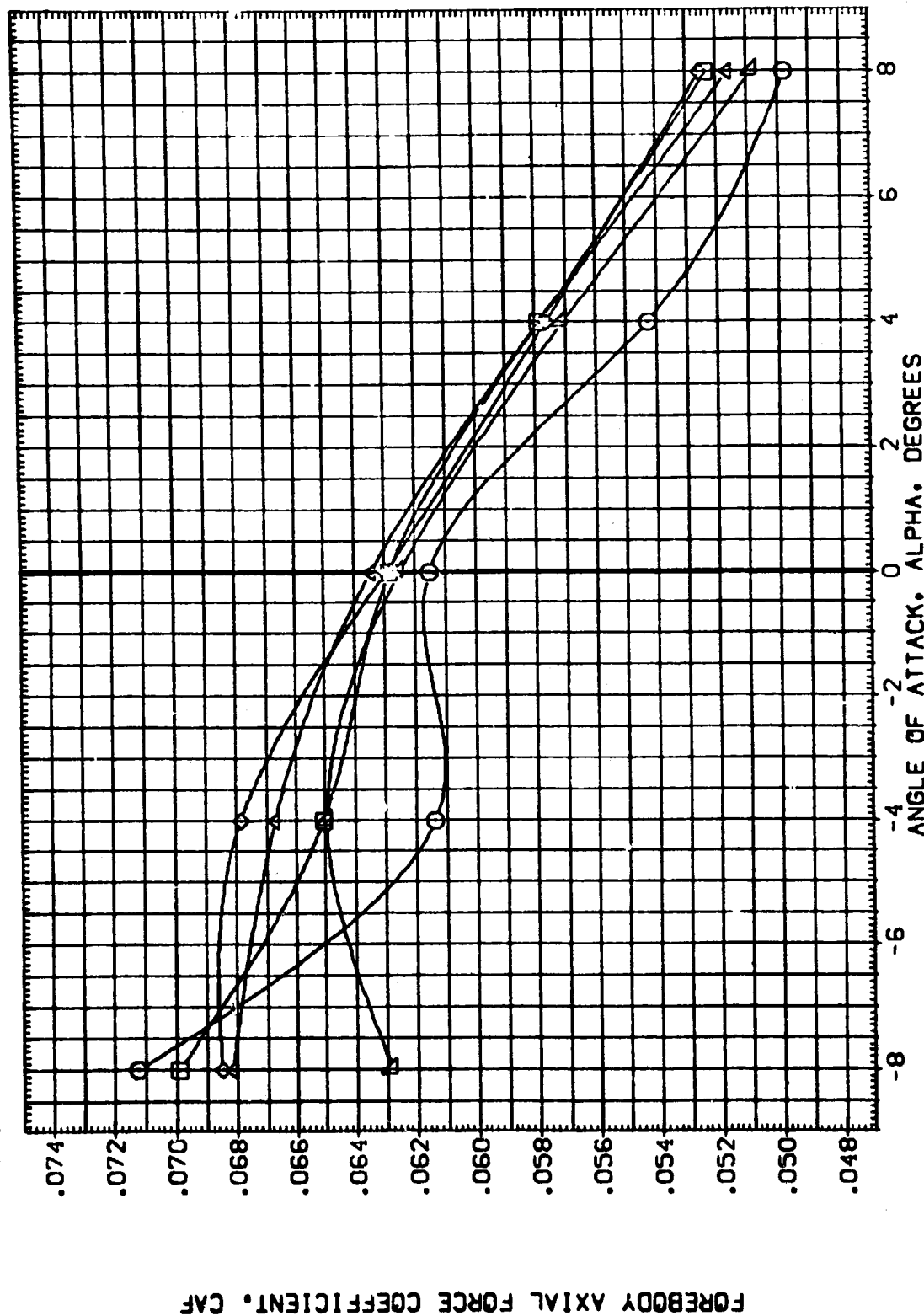


FIG. 32 LVAP (01 T12 S12 N25 AT11), MACH = .95 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1037)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	BETA	MACH	ELEVON	SREF	2.4210	SQ.FT.
○	-8.000	RUDDER	.000	LREF	38.7090	IN.
□	-4.000		.000	BREF	38.7090	IN.
◇	.000		SPOBRK	XMRP	.0000	IN.
△	4.000			YMRP	.0000	IN.
	8.000			ZMRP	9.9800	IN.
				SCALE	.0300	

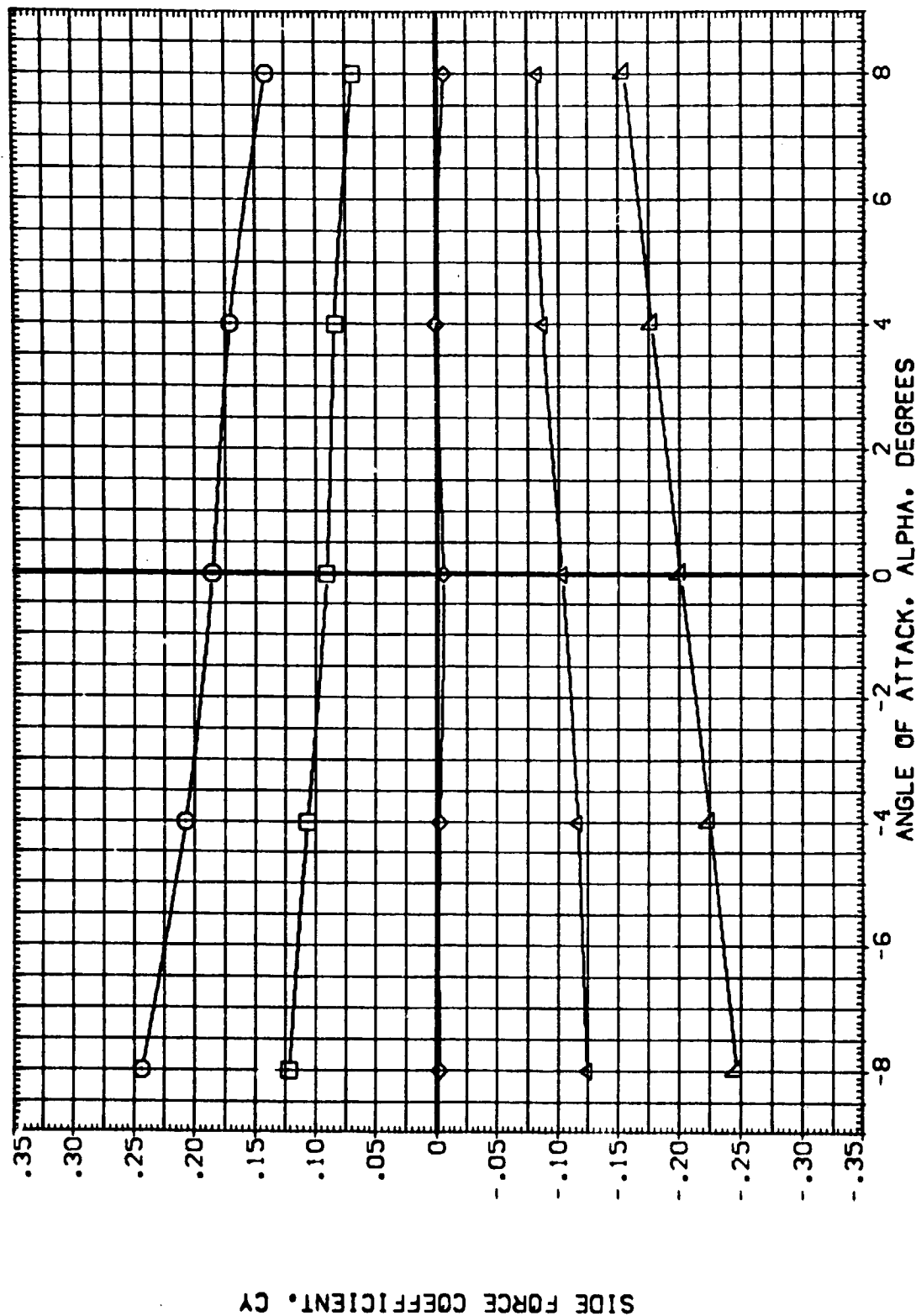


FIG. 32 LVAP (01 T12 S12 N25 AT11) , MACH = .95 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1037)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .555
 ELEVON .000
 RUDDER .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9500
 SCALE .0300

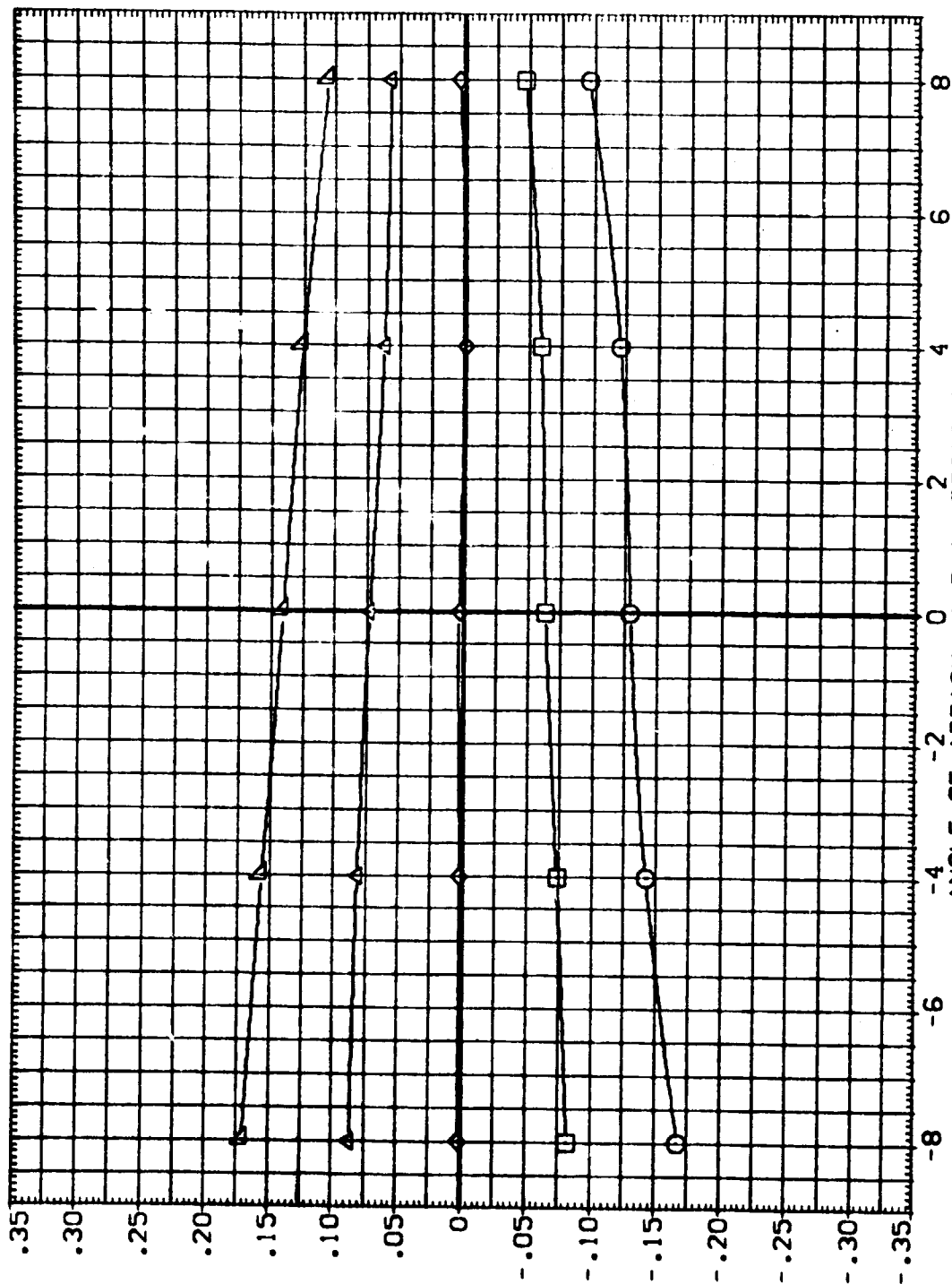


FIG. 32 LVAP (01 T12 S12 N25 AT11) , MACH = .95 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (181037)

SYMBOL		PARAMETRIC VALUES		REFERENCE INFORMATION	
BETA		MACH		SREF	SO.FT.
-9.000		.955	ELEVON	LREF	IN.
-4.000		.000	SPDRK	BREF	IN.
.000				XMRP	IN.
4.000				YMRP	IN.
9.000				ZMRP	IN.
				SCALE	
					.0300

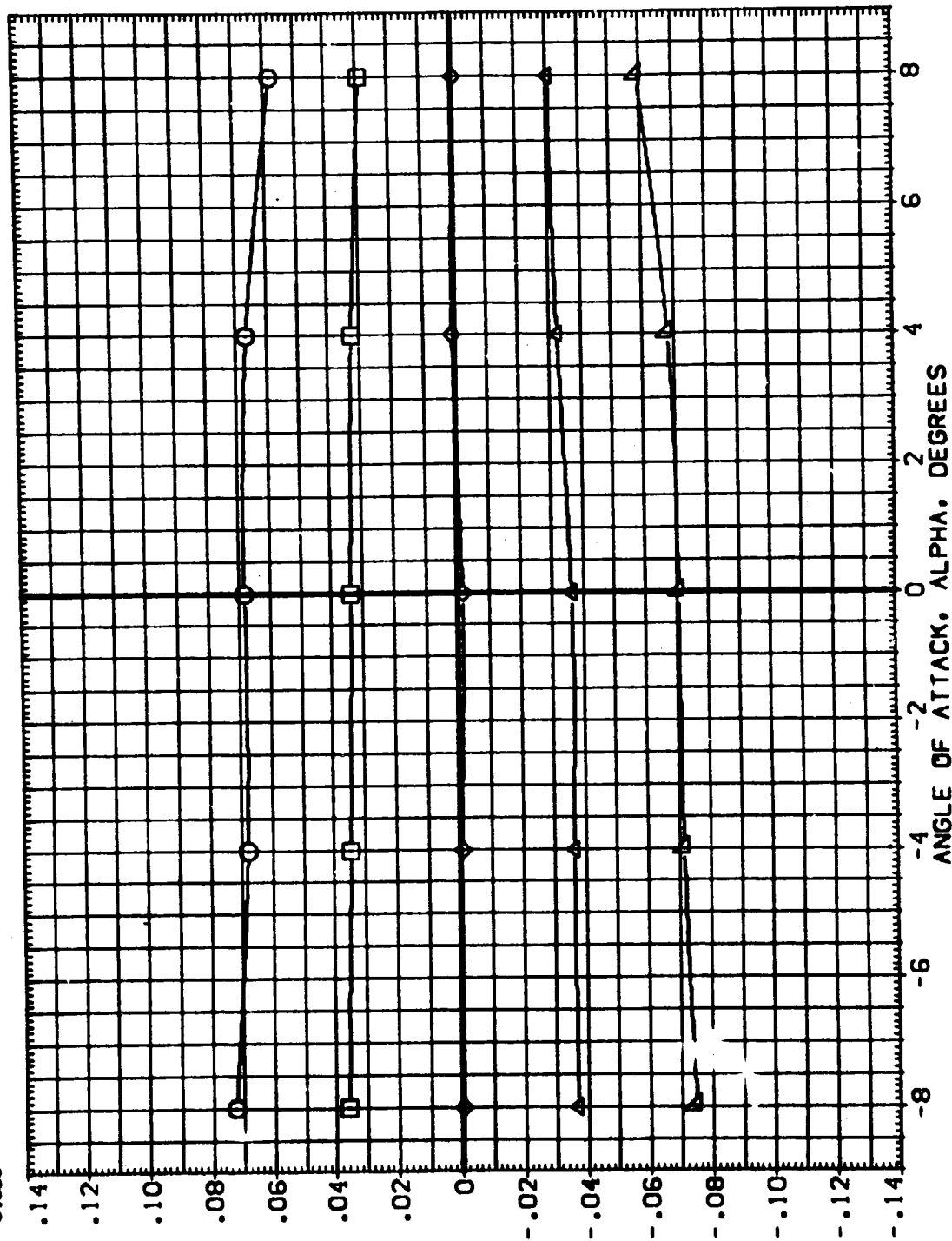


FIG. 32 LVAP (01 T12 S12 N25 AT11) , MACH = .95 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1038)

SYMBOL
 ○ □ ◇ △ ▽

BETA
 -8.000
 -4.000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.052
 RUDDER .000
 ELEVON .000
 SPDRK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0000

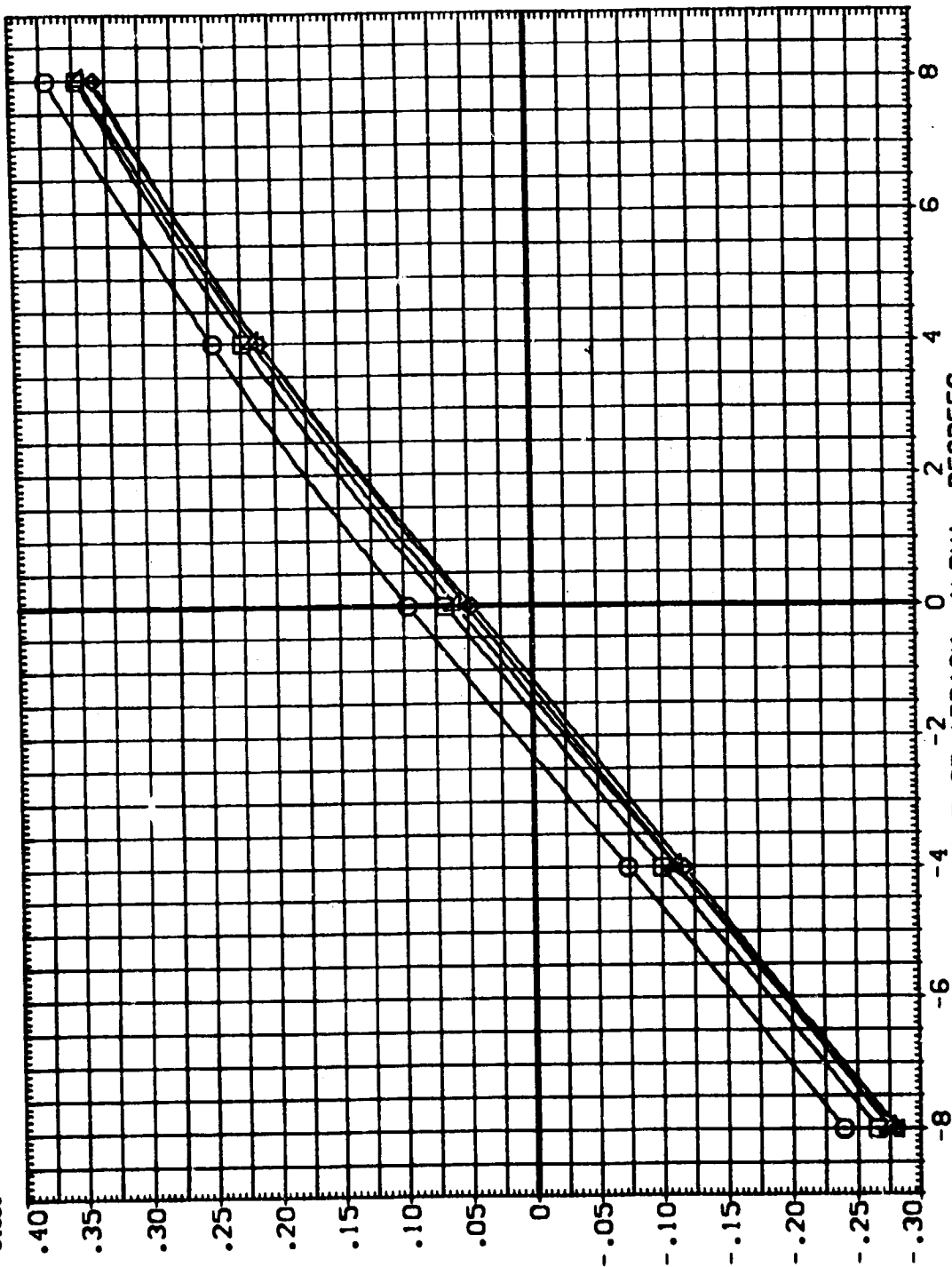


FIG. 33 LVAP (01 T12 S12 N25 AT11) , MACH = 1.05 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1038)

REFERENCE INFORMATION

SREF	2.4210	SO.FT.
LREF	38.7090	IN.
BREF	38.7090	IN.
XMRP	.0000	IN.
YMRP	.0000	IN.
ZMRP	9.9500	IN.
SCALE	.0300	

PARAMETRIC VALUES

BETA	1.052	ELEVON	.000
MACH	.000	RUDDER	.000

SYMBOL

○	◇	△
---	---	---

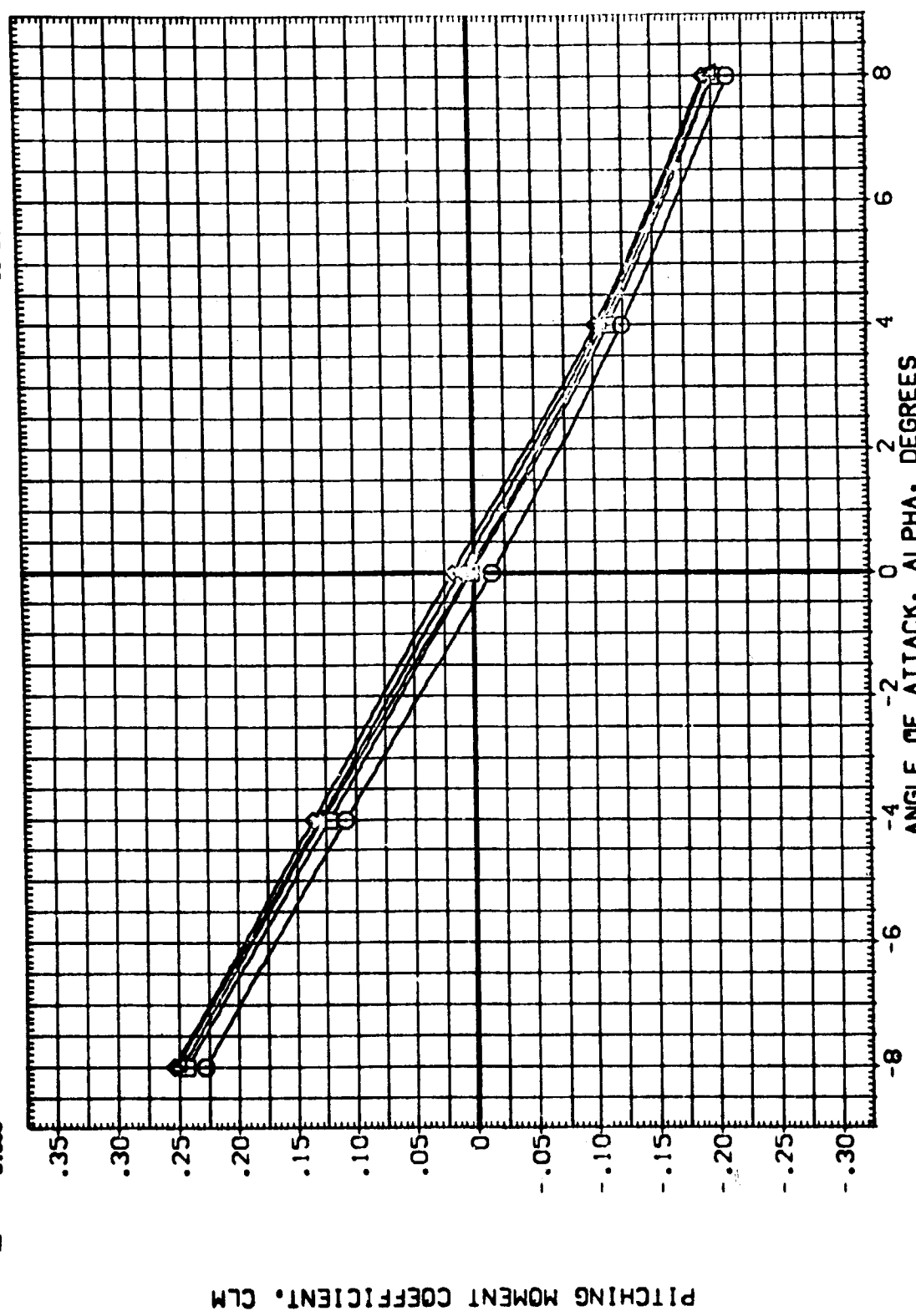


FIG. 33 LVAP (01 T12 S12 N25 AT11) • MACH = 1.05 (ORBITER BALANCE)

AMES 11-716 1A14A 01+112+S12 N25+AT11 (ORBITER) (IB1038)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION	
	BETA	MACH	RUDDER	SREF	SO.FT.
◇	-8.000	1.052	.000	LREF	2.4210
□	-4.000	.000	.000	BREF	38.7080
△	.000	.000	.000	XMRP	38.7080
▽	4.000	.000	.000	YMRP	.0000
	8.000	.000	.000	ZMRP	.0000
				SCALE	9.9800
					.0330

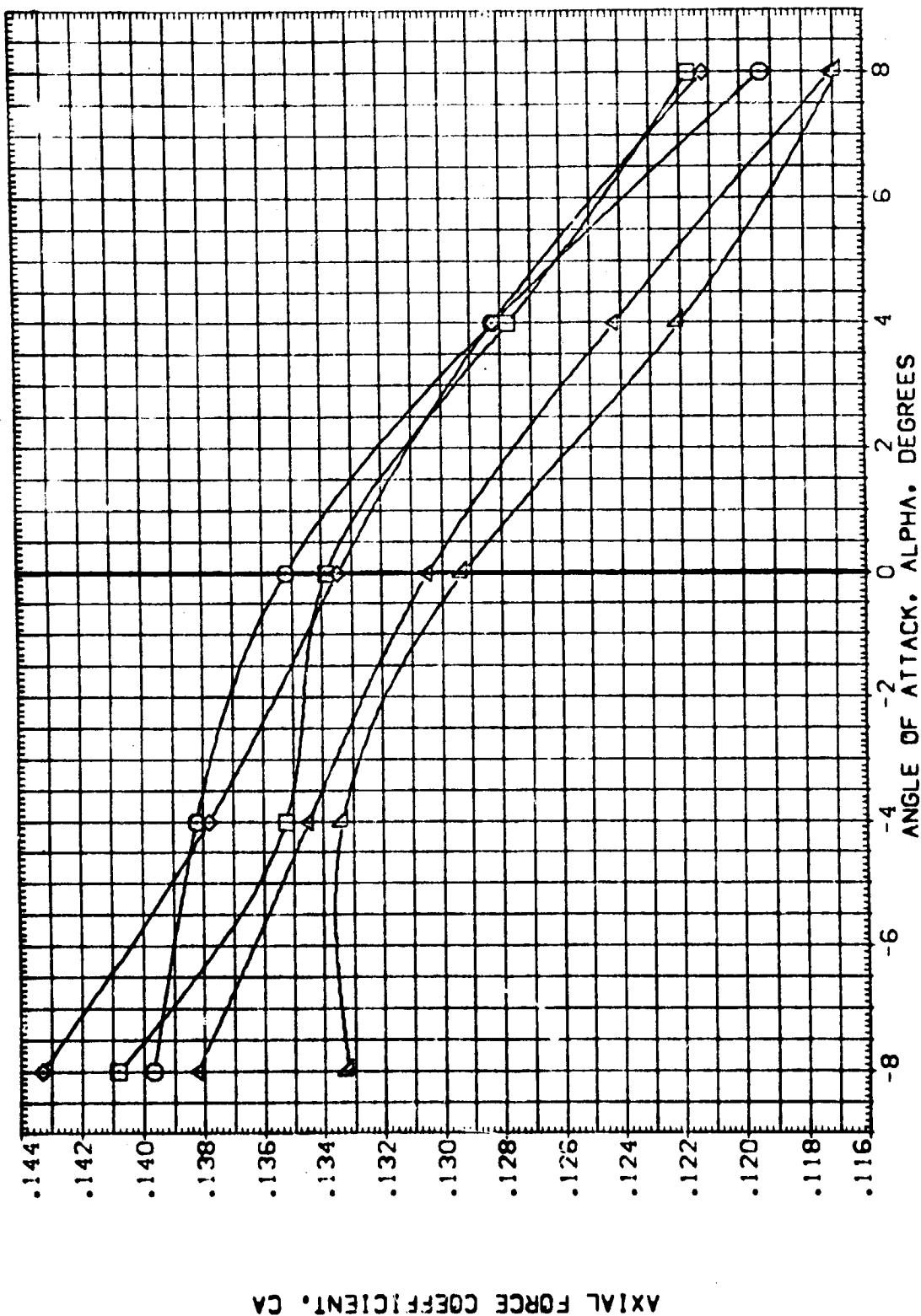


FIG. 33 LVAP (01 112 S12 N25 AT11) . MACH = 1.05 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1038)

SYMBOL
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.052
 RUDDER .000
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

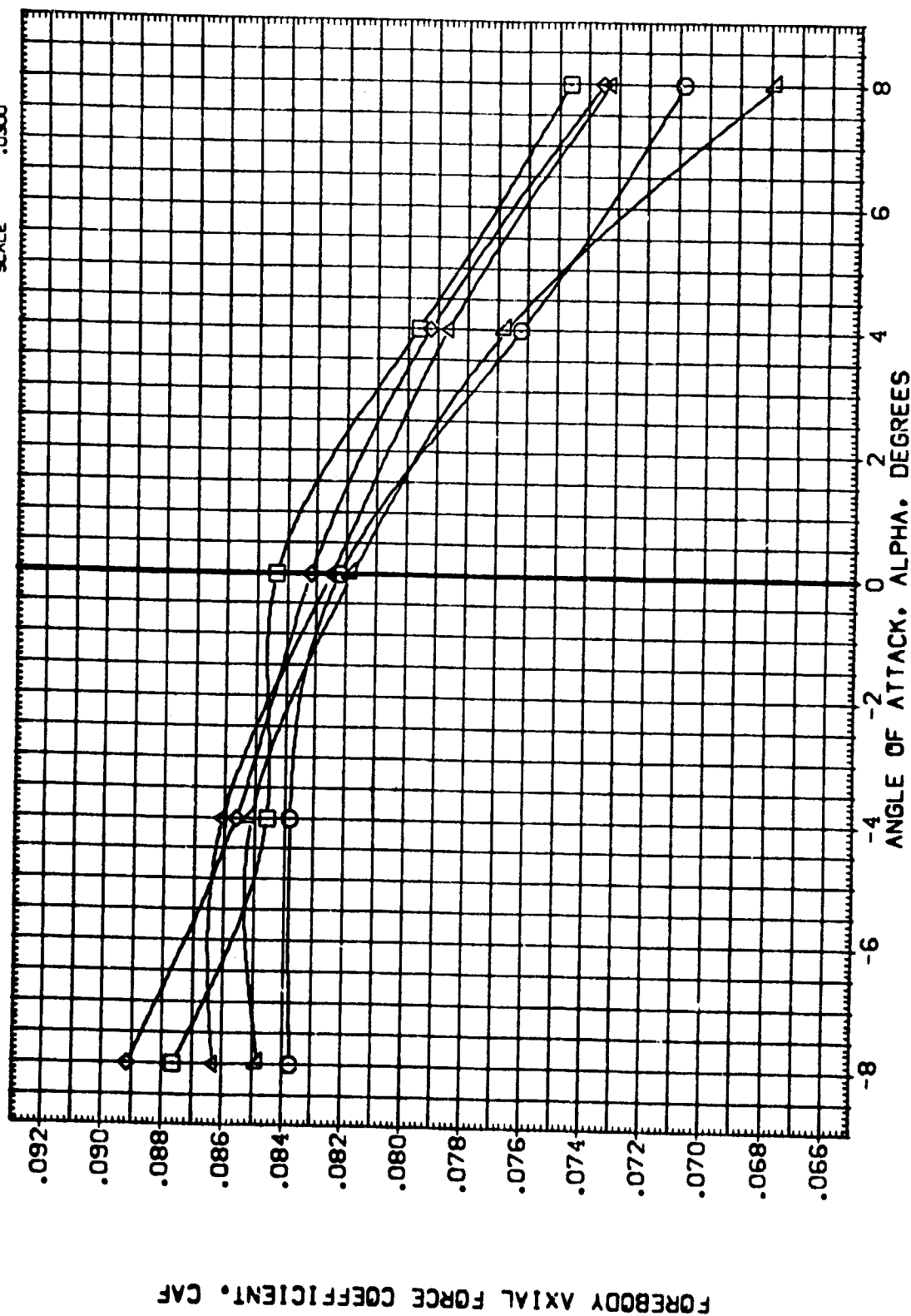


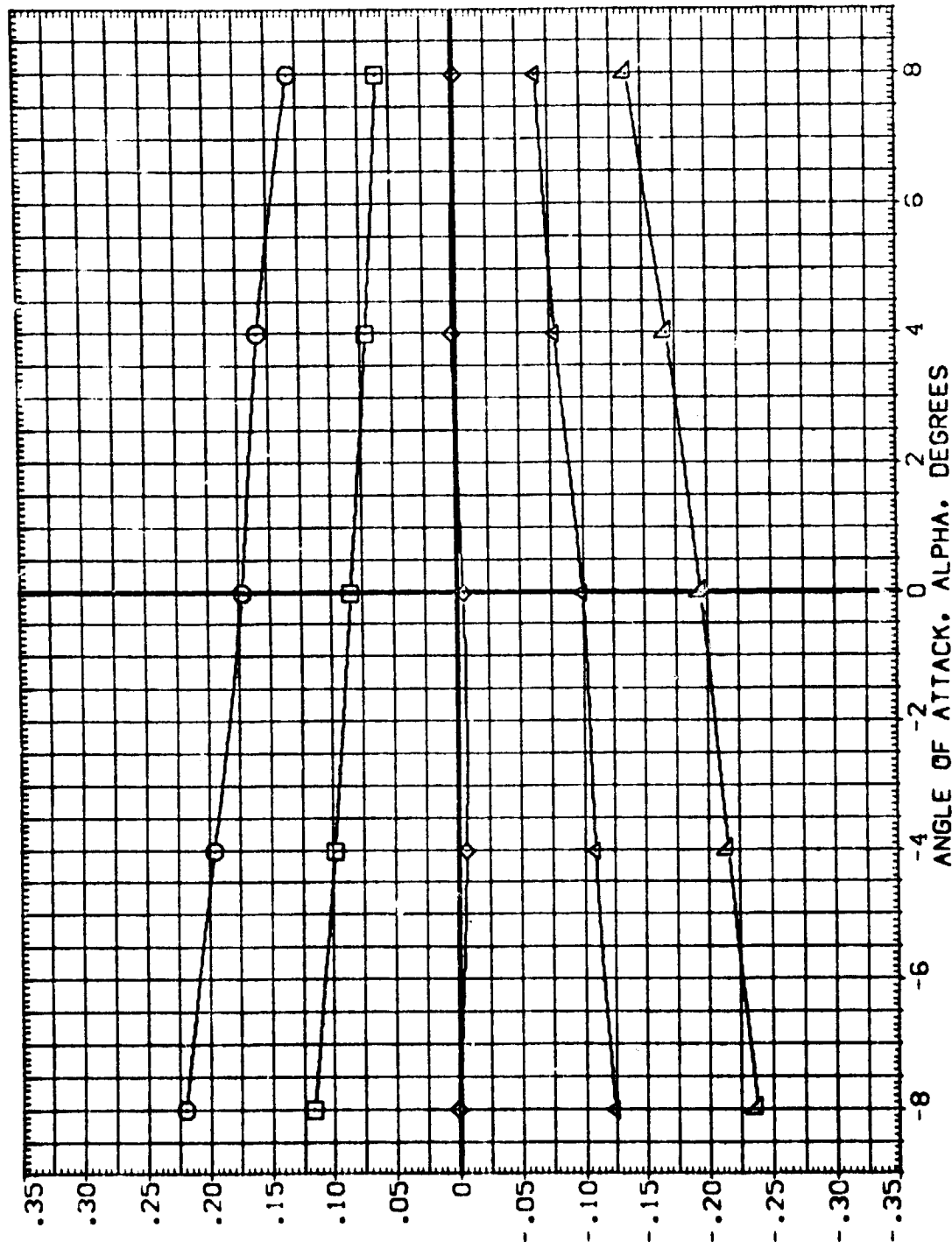
FIG. 33 LVAP (01 T12 S12 N25 AT11) . MACH = 1.05 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1038)

SYMBOL BETA MACH FLUOR
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 1.052 ELEVON .000
 .000 SPOBRK

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.709C
 BREF 38.709C
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300



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FIG. 33 LVAP (01 T12 S12 N25 AT11) , MACH = 1.05 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (IB1038)

SYMBOL
□ ◇ △

BETA
-8.000
-4.000
0.000
4.000
8.000

MACH
R.000

PARAMETRIC VALUES
1.052
ELEVON
SPOBRK

.000
.000

REFERENCE INFORMATION
SREF 2.4210 SQ.FT.
LREF 38.7090 IN.
BREF 38.7090 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9800 IN.
SCALE .0300

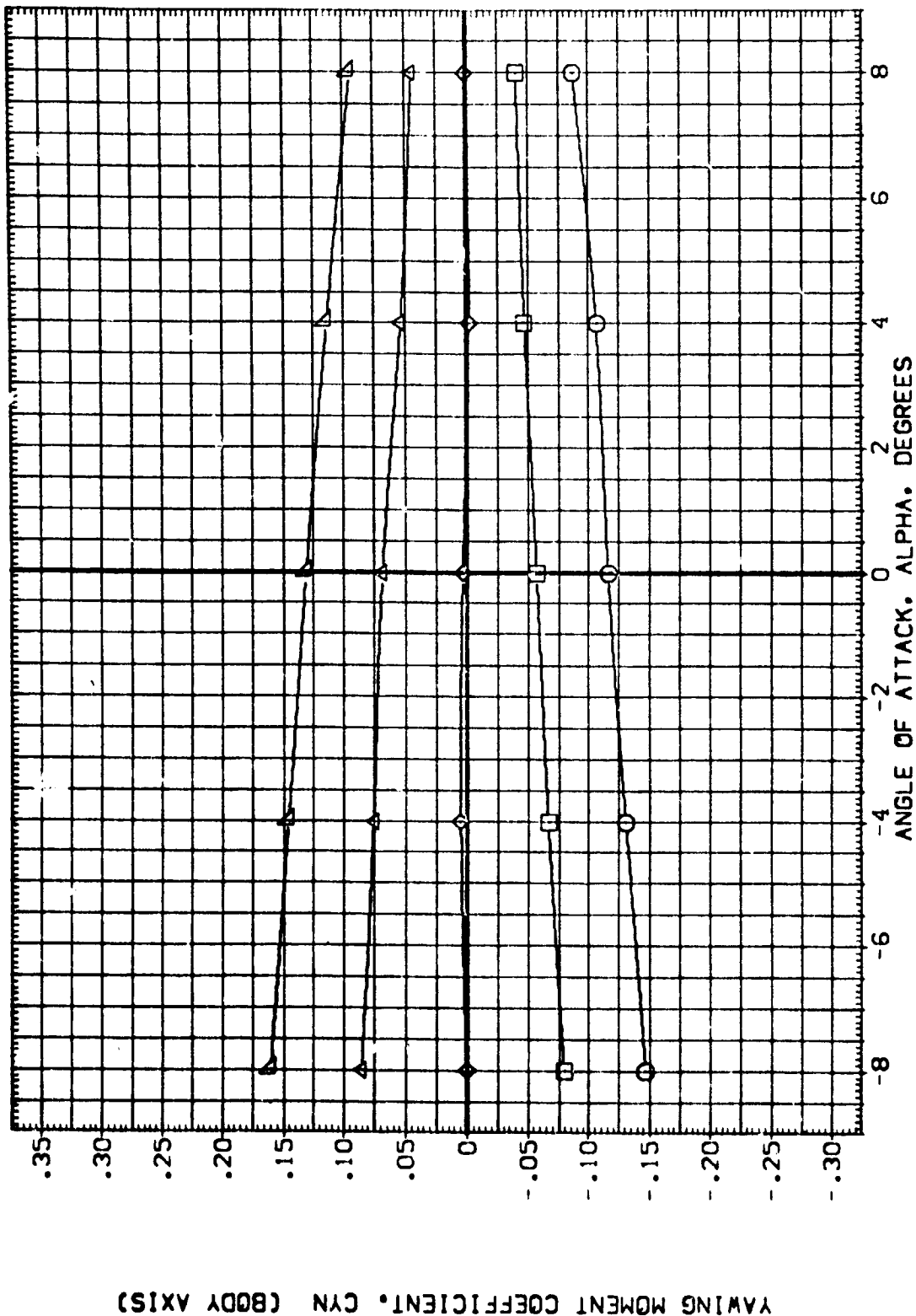


FIG. 33 LVAP (01 T12 S12 N25 AT11) . MACH = 1.05 (ORBITER BALANCE)

AMES 11-716 1A14A 01+112+S12 N25+AT11 (ORBITER) (1B1038)

SYMBOL
▽◇□○

BETA
-8.000
-4.000
.000
4.000
8.000

PARAMETRIC VALUES
MACH 1.052
RUDDER .000
ELEVON .000
SPOBRK .000

REFERENCE INFORMATION
SREF 2.4210 SQ.FT.
LREF 38.7090 IN.
BREF 38.7090 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9833 IN.
SCALE .0300

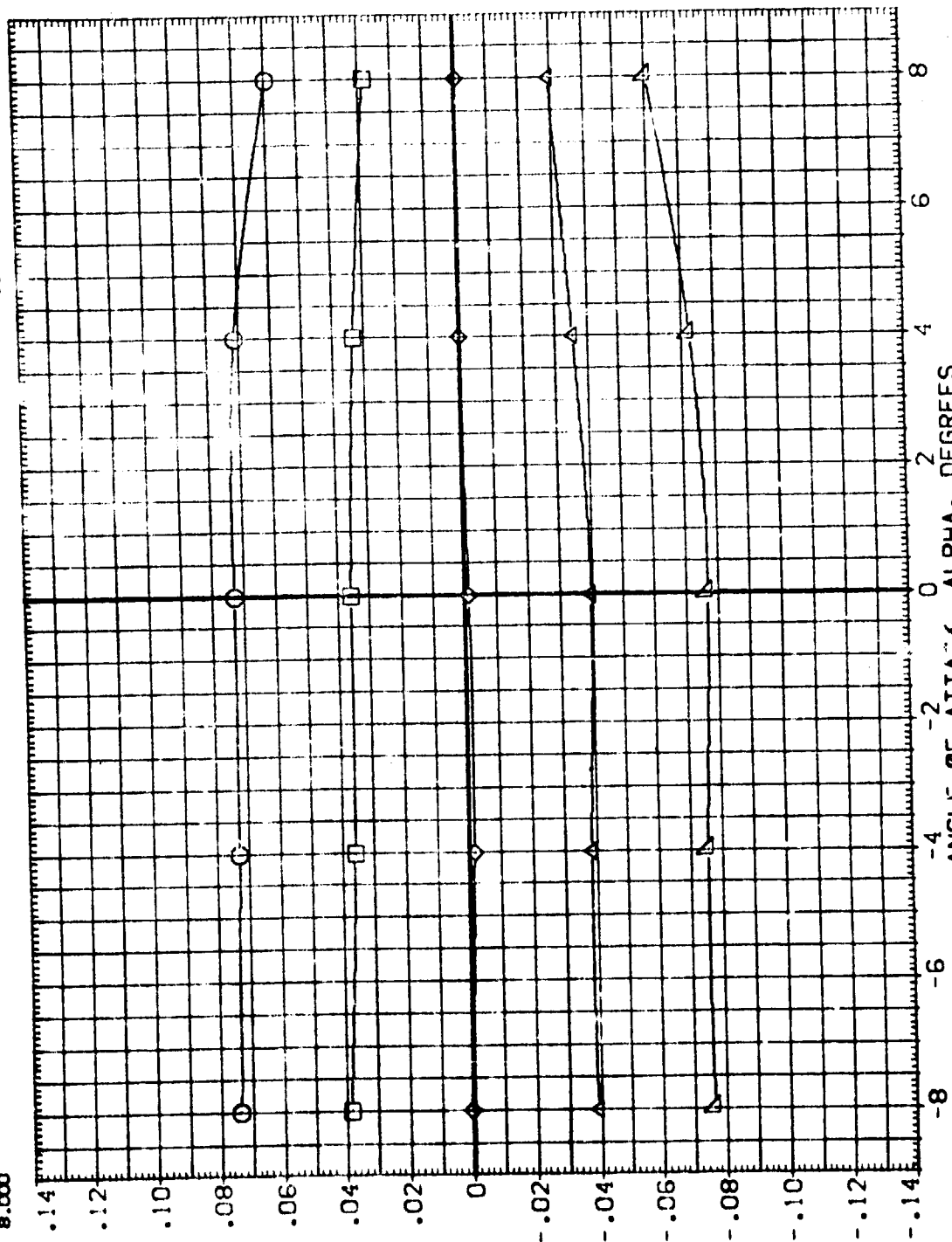


FIG. 33 LVAP (01 112 S12 N25 AT11) • MACH = 1.05 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (IB1039)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	BETA	MACH	RUDER	SREF	2.4210	50.FT.
◇	-8.000	1.154	ELEVON	LREF	38.7080	IN.
◇	-4.000	.000	SPOBRK	BREF	38.7080	IN.
◇	.000			XMRP	.0000	IN.
◇	4.000			YMRP	.0000	IN.
◇	8.000			ZMRP	9.9800	IN.
				SCALE	.0300	

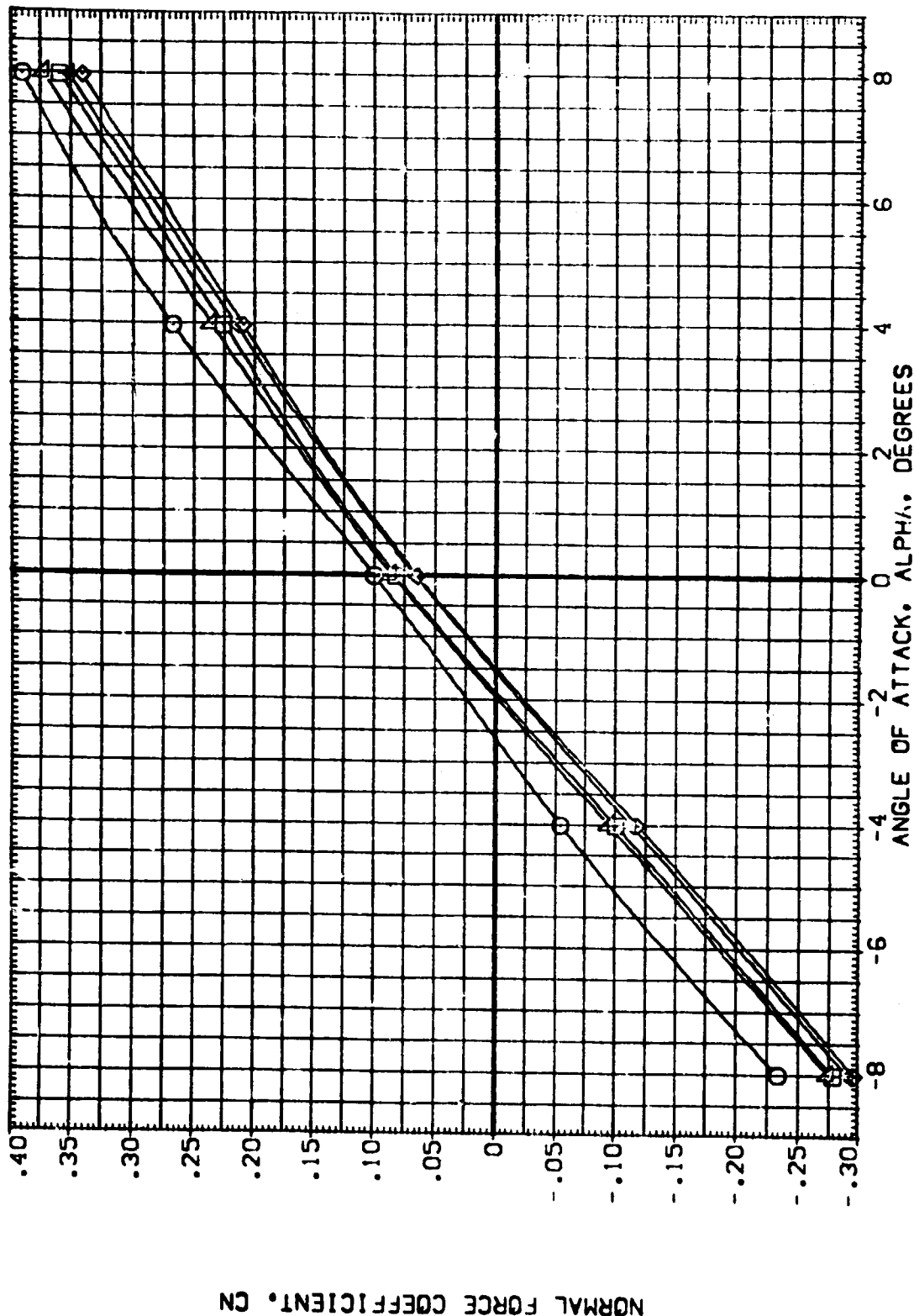


FIG. 34 LVAP (01 T12 S12 N25 AT11) , MACH = 1.15 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1039)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 1.154 ELEVON
 .000 SPOBRK

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7080 IN.
 BREF 38.7080 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.592 IN.
 SCALE .0300

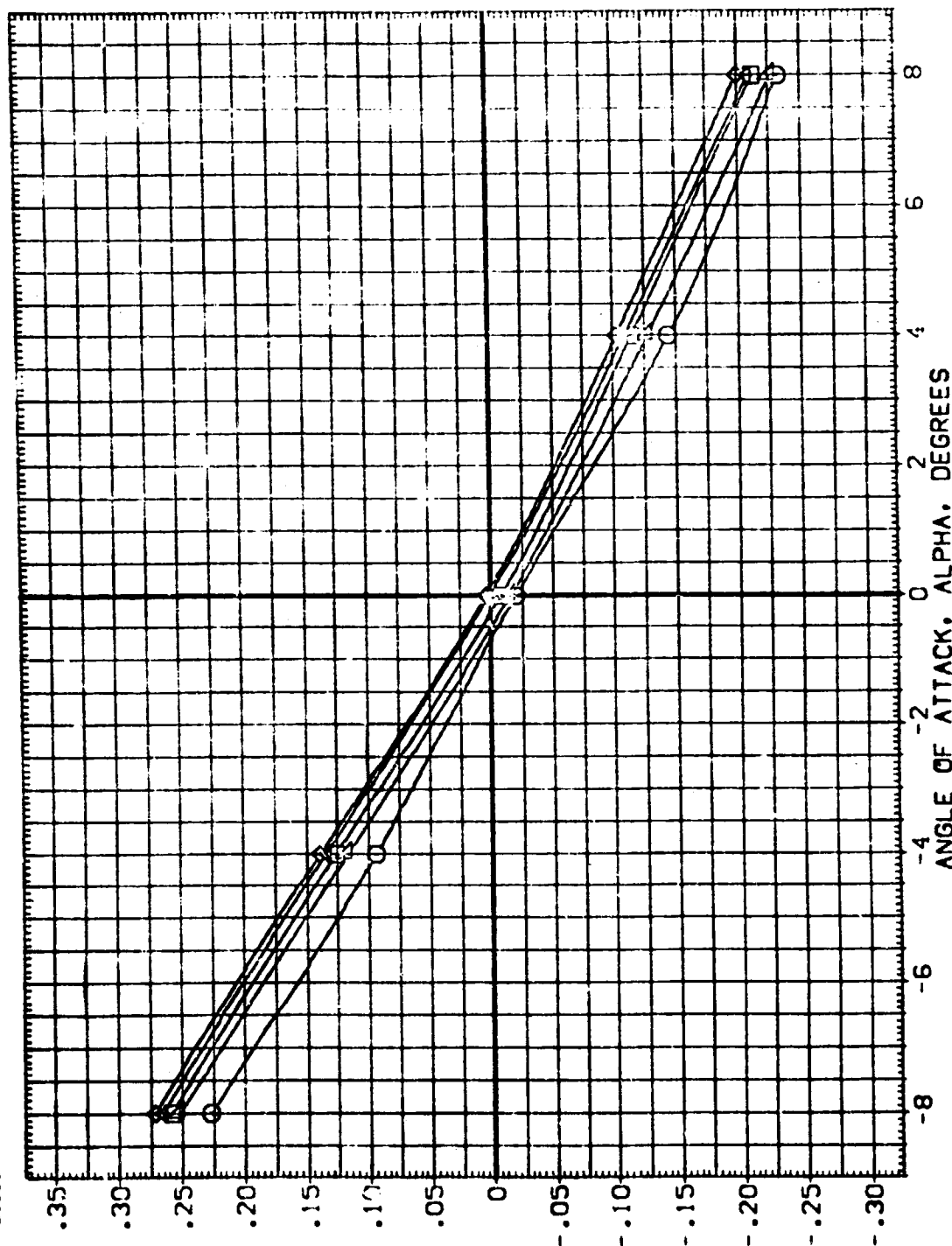


FIG. 34 LVAP (01 T12 S12 N25 AT11) • MACH = 1.15 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1039)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.154
 ELEVON .000
 SPOBRK .000

REF. INFORMATION
 SREF 2.4210
 LREF 28.7080
 BREF 38.7050
 XMRP .0000
 YMRP .0000
 ZMRP 9.9500
 SCALE .0300

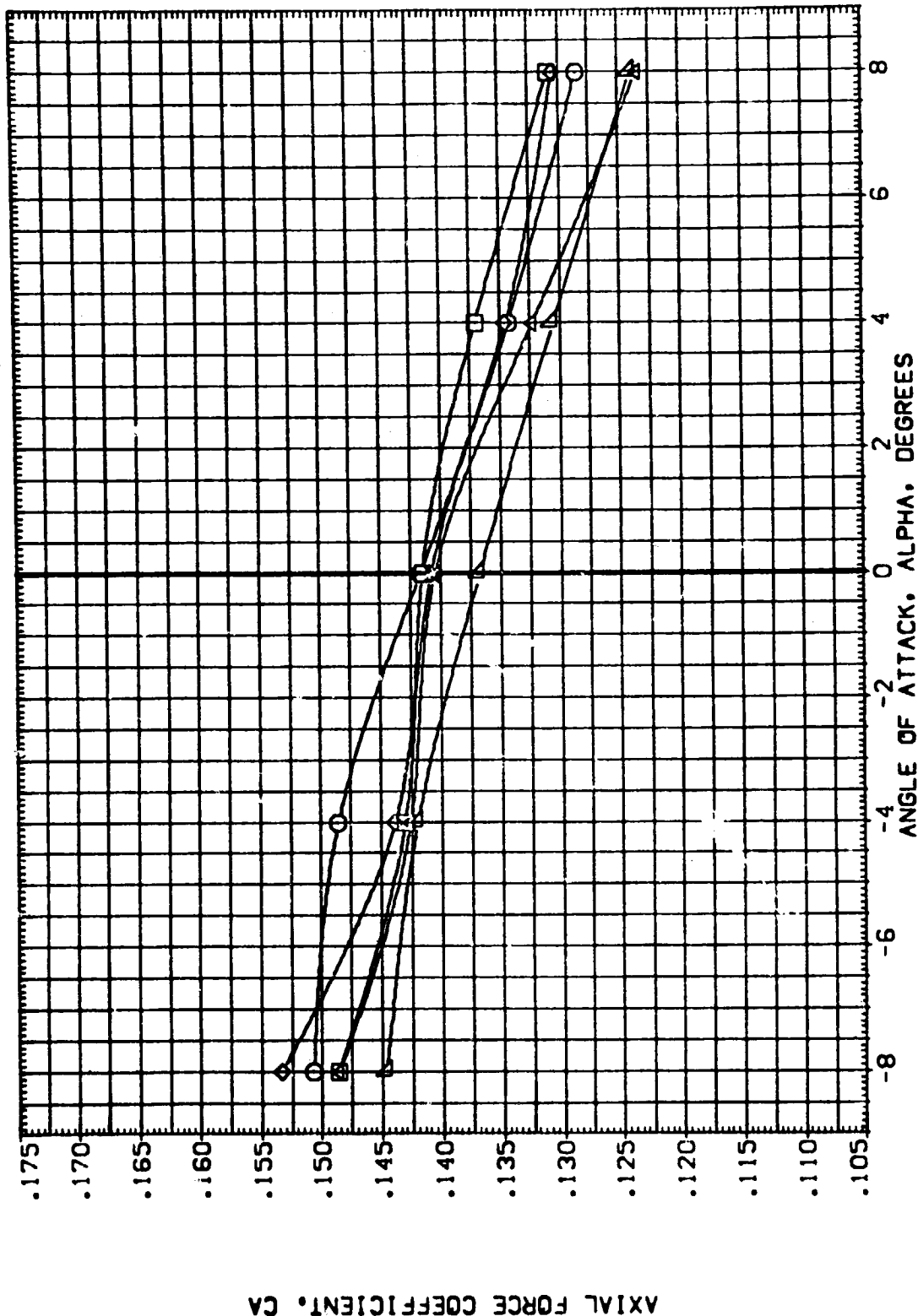


FIG. 34 LVAP (01 T12 S12 N25 AT11) . MACH = 1.15 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (181039)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.154
 RUDDER .000
 ELEVON .000
 SPOBRK .000

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7050
 BREF 38.7050
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

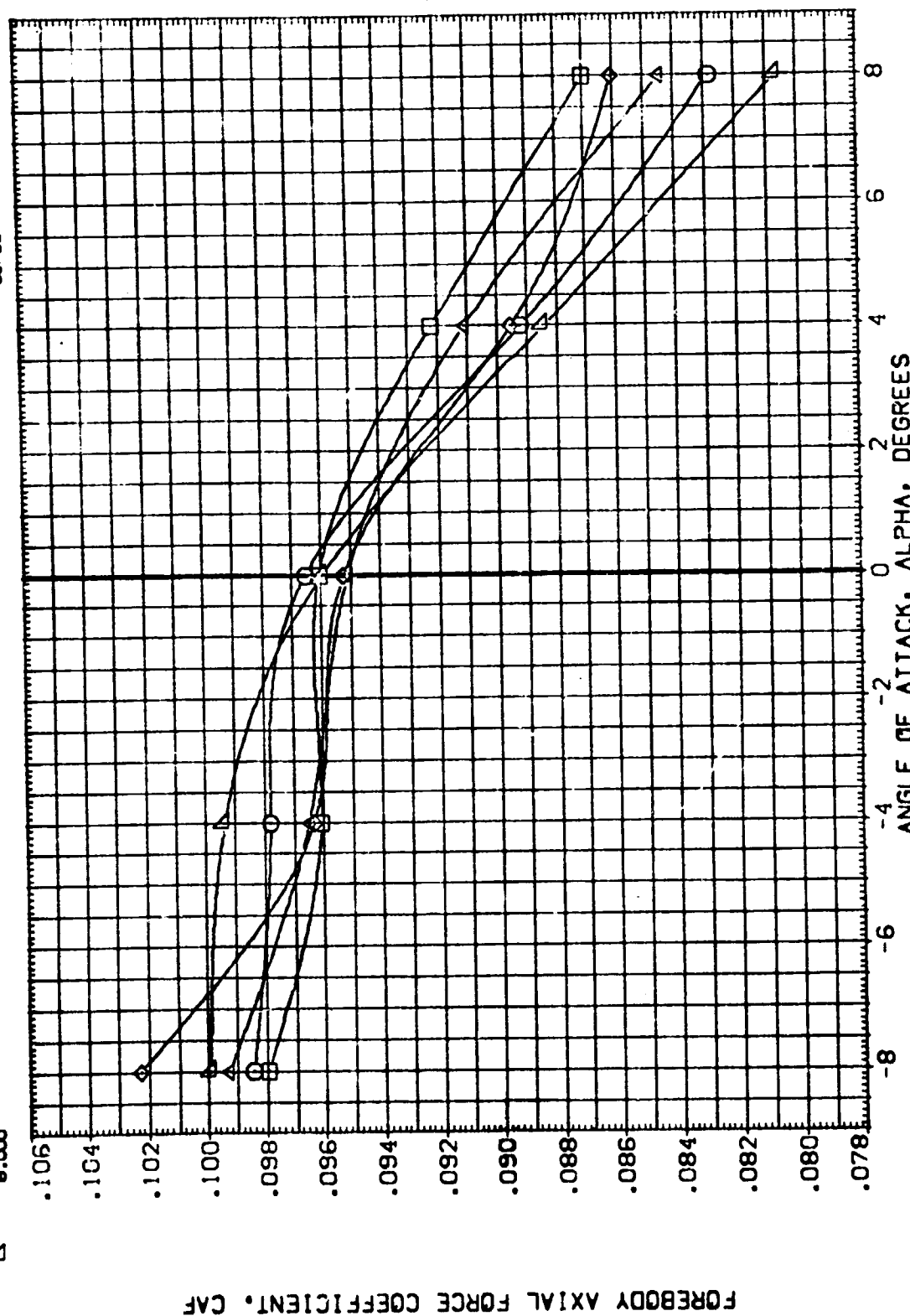


FIG. 34 LVAP (01 T12 S12 N25 AT11) , MACH = 1.15 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (181039)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	BETA	MACH	ELEVON	SREF	2.4210	SO.FT.
○	-8.000		.000	LREF	38.7090	IN.
□	-4.000		.000	BREF	38.7090	IN.
◇	.000			XMRP	.0000	IN.
△	4.000			YMRP	.0000	IN.
▽	8.000			ZMRP	9.9900	IN.
				SCALE	.0300	

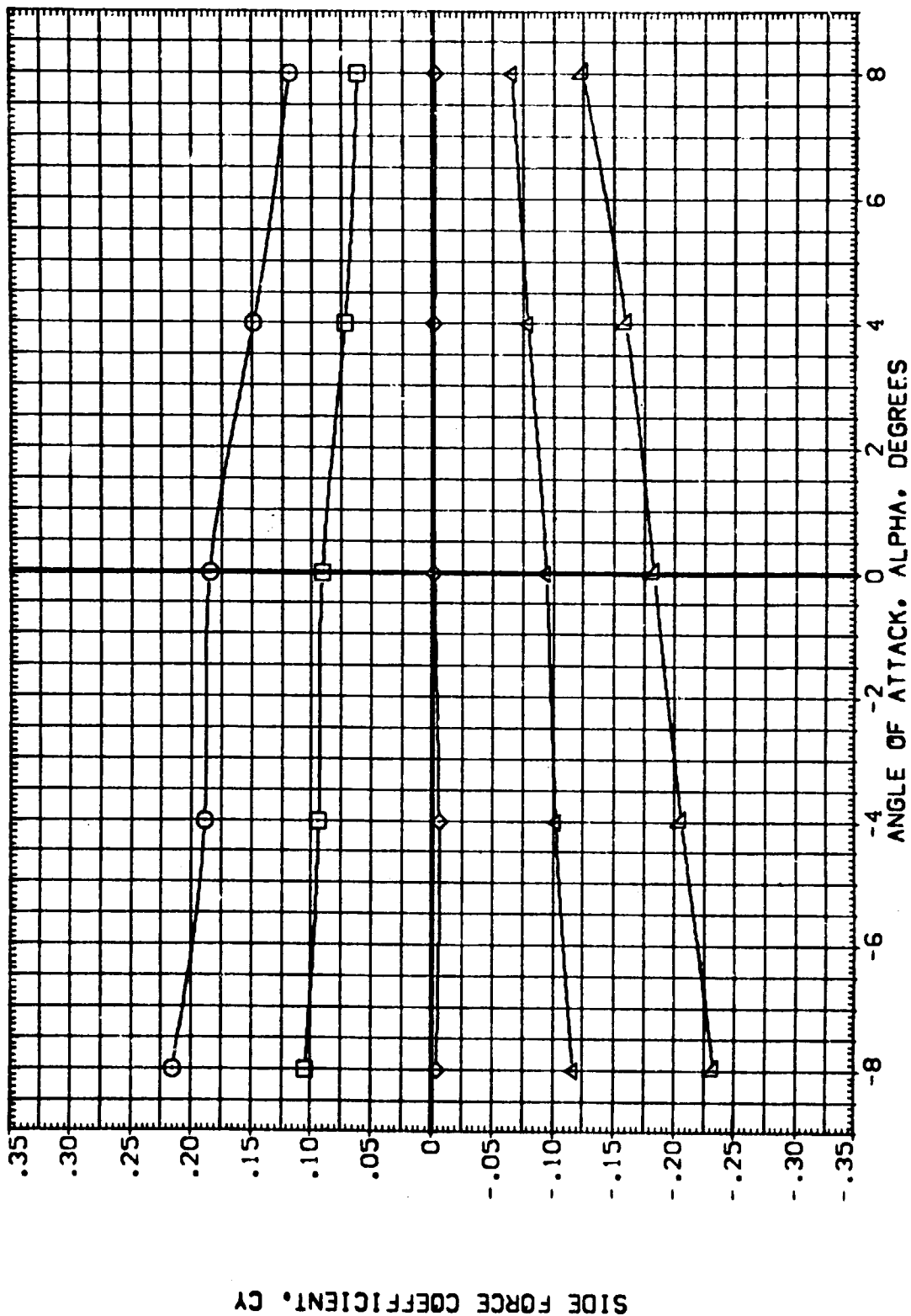


FIG. 34 LVAP (01 T12 S12 N25 AT11) , MACH = 1.15 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (181039)

SYMBOL
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BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 1.154

RUDER
 .000

PARAMETRIC VALUES
 ELEVON
 .000

SPOBRK
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9500
 SCALE .0300

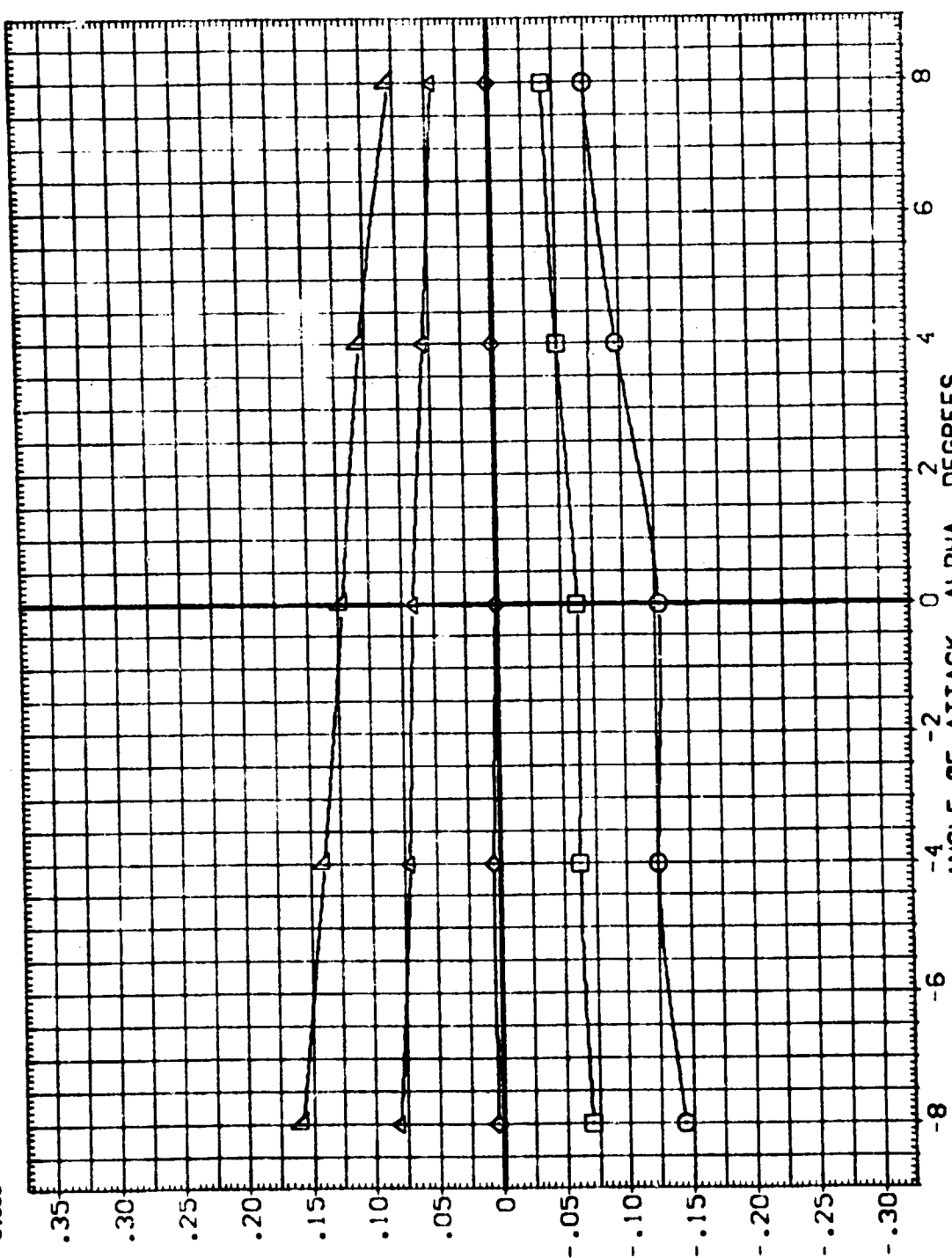


FIG. 34 LVAP (01 T12 S12 N25 AT11) . MACH = 1.15 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (181039)

SYMBOL	BETA		PARAMETRIC VALUES		REFERENCE INFORMATION	
	REF	VAL	REF	VAL	SO.FT.	IN.
○	-8.000	MACH	1.154	ELEVON	2.4210	IN.
□	-4.000	RUDER	.000	SPORAK	38.7090	IN.
◇	.000				38.7090	IN.
△	4.000				.0000	IN.
	8.000				.0000	IN.
					9.9500	IN.
					.0300	SCALE

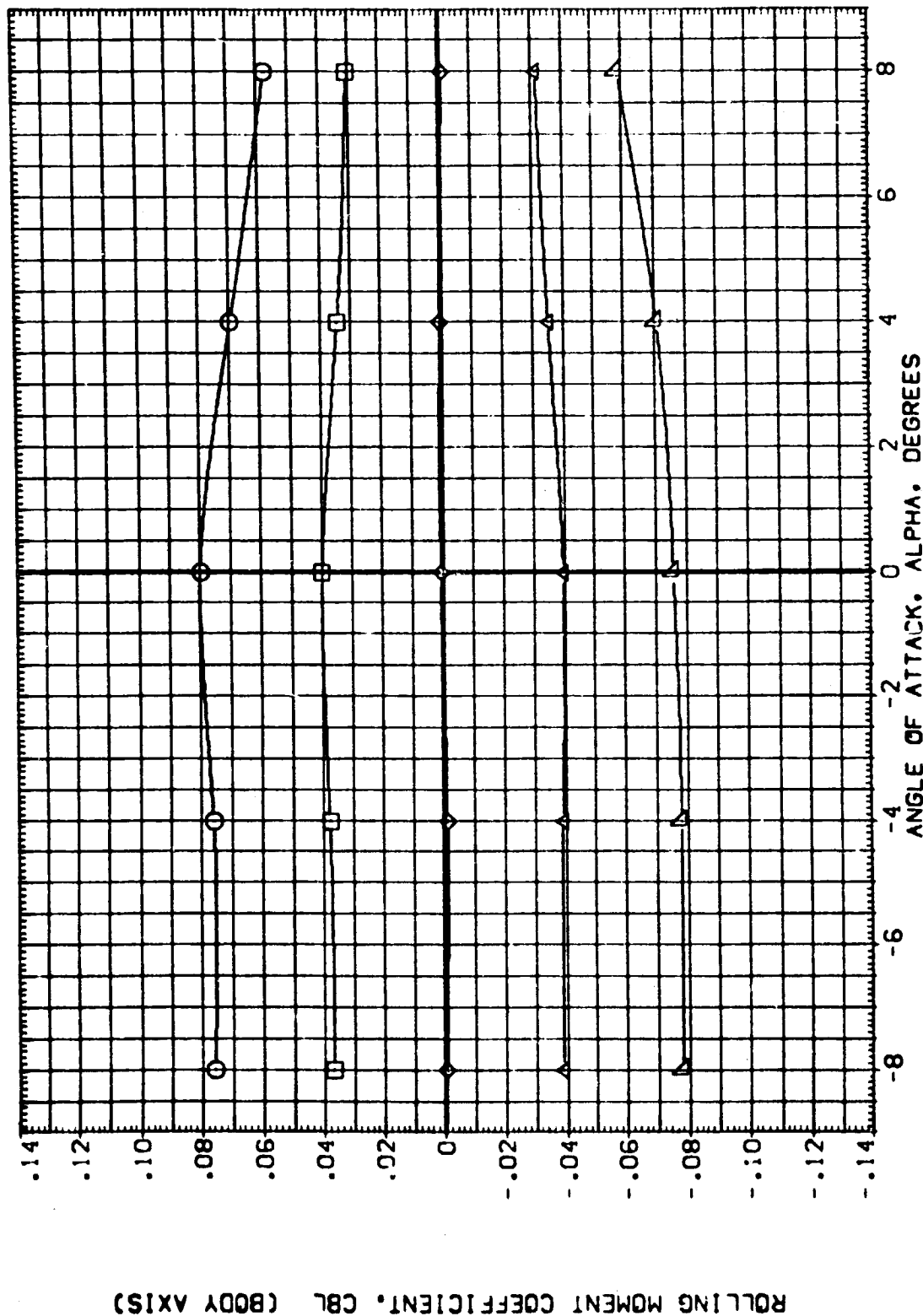


FIG. 34 LVAP (01 T12 S12 N25 AT11) . MACH = 1.15 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (181040)

SYMBOL
 ▽ ◊ □ ◊ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.398
 RUDDER .000
 ELEVON .000
 SPOON .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7083
 BREF 38.7083
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

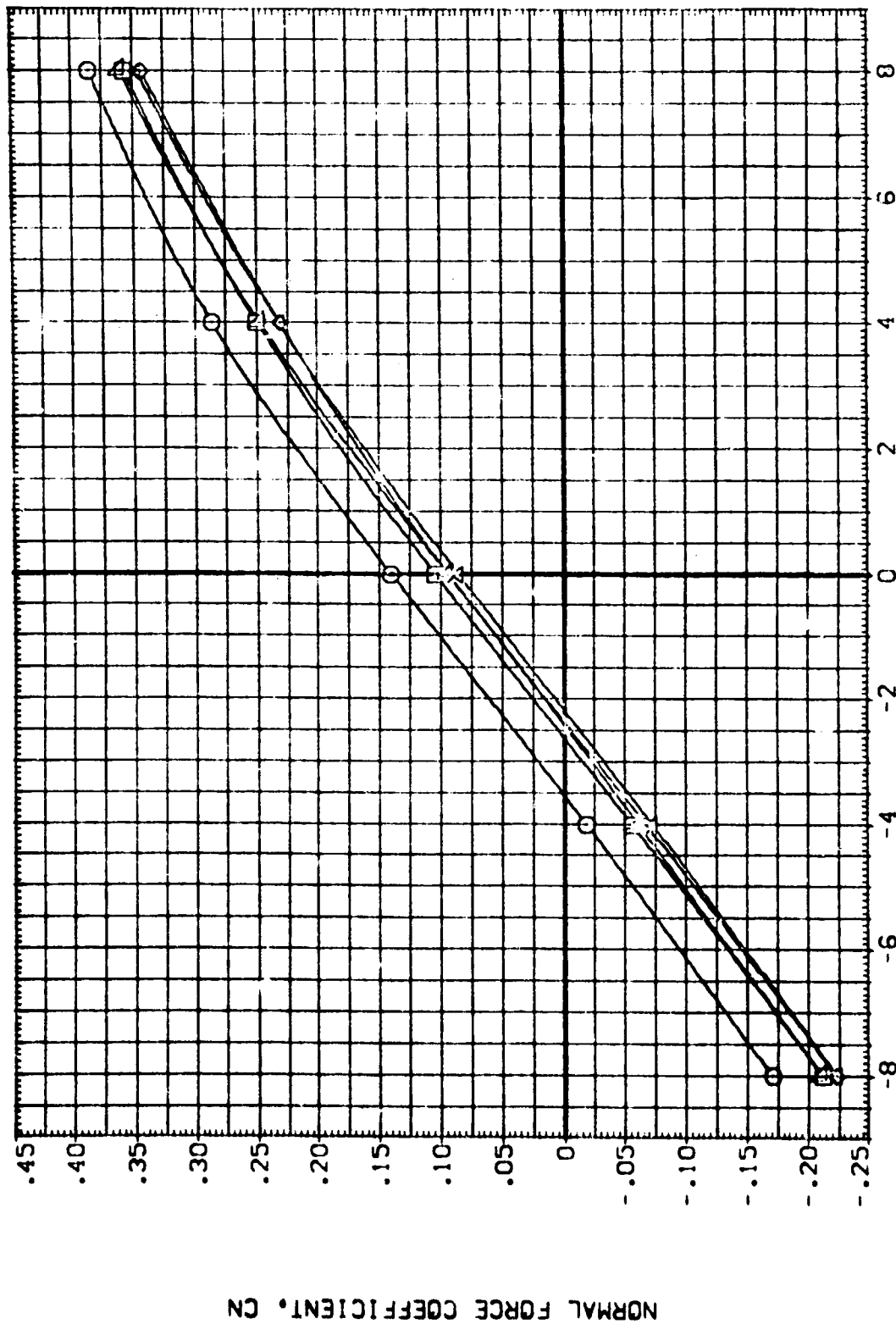


FIG. 35 LVAP (01 T12 S12 N25 AT11) , MACH = 1.4 (ORBITER BALANCE)

AMES 11-716 1A14A 01+112+S12 N25+AT11 (ORBITER) (181040)

SYMBOL
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BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 1.358 ELEVON
 .000 SPDBRK

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

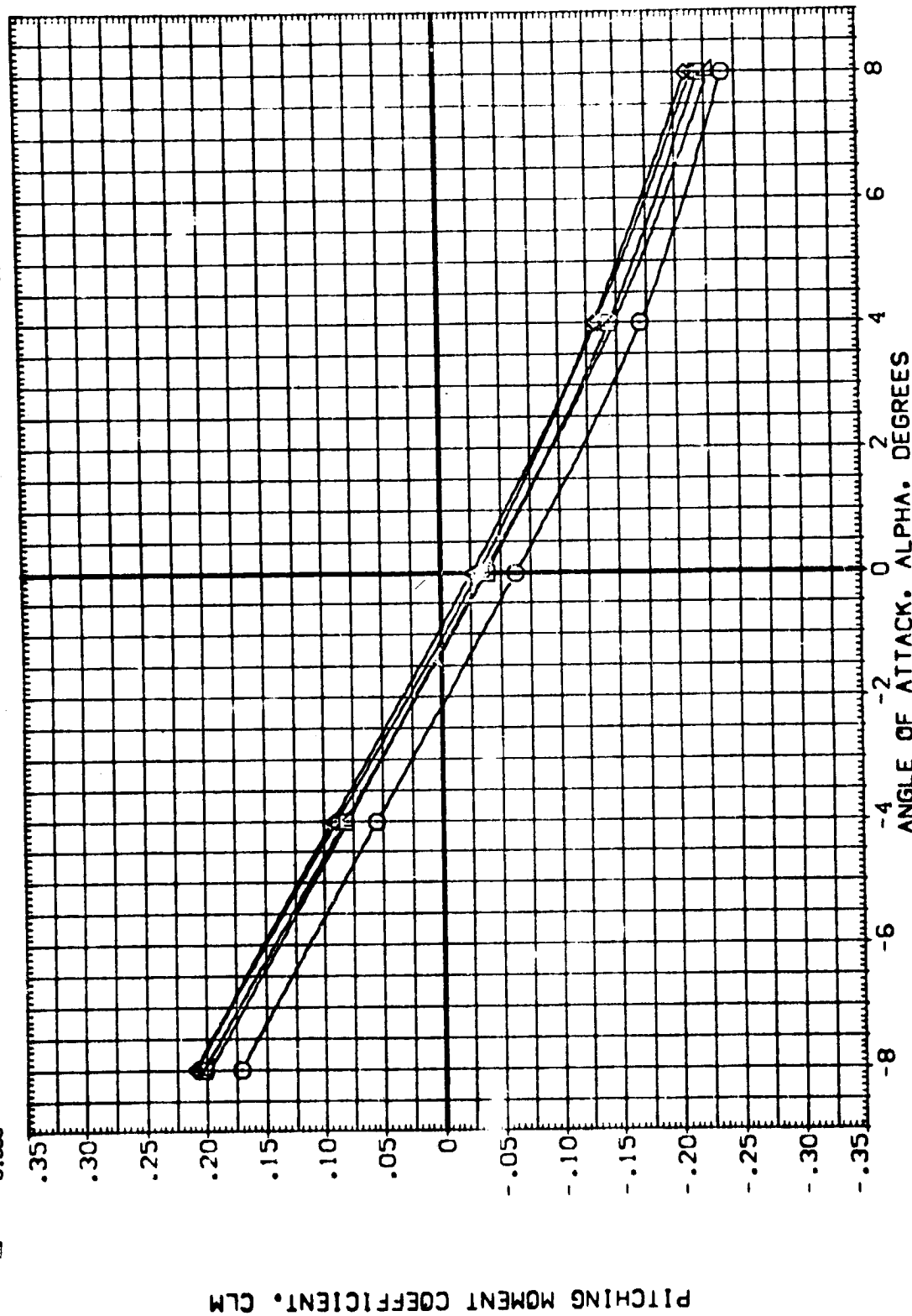


FIG. 35 LVAP (01 112 S12 N25 AT11) • MACH = 1.4 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1040)

SYMBOL	BETA	MACH	PARAMETRIC VALUES	ELEVON	SPDRK
○	-8.000	FLUDER	1.358	.000	.000
□	-4.000				
◇	.000				
△	4.000				
▽	8.000				

REFERENCE INFORMATION	
SREF	2.4210
LREF	38.7050
BREF	38.7050
XMRP	.0000
YMRP	.0000
ZMRP	9.5800
SCALE	.0300

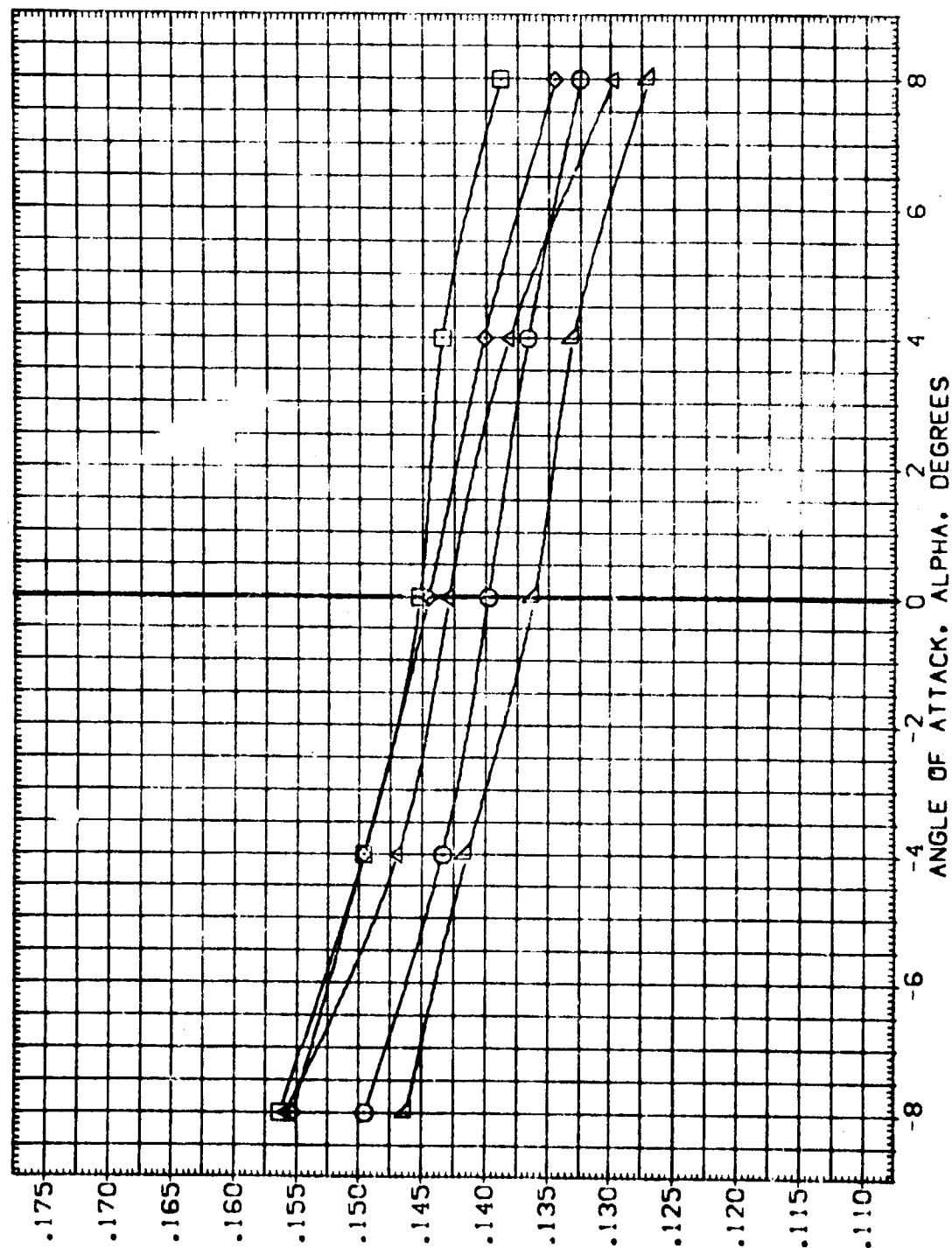


FIG. 35 LVAP (01 T12 S12 N25 AT11) . MACH = 1.4 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1040)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	BETA	MACH	RUDDER	SREF	2.4210	SO.FT.
◇	-8.000	1.398	ELEVON	LREF	38.7050	IN.
□	-4.000	.000	SPDRY	BREF	38.7050	IN.
◇	.000	.000		XMRP	.0000	IN.
◇	4.000	.000		YMRP	.0000	IN.
◇	8.000	.000		ZMRP	9.9900	IN.
				SCALE	.0300	

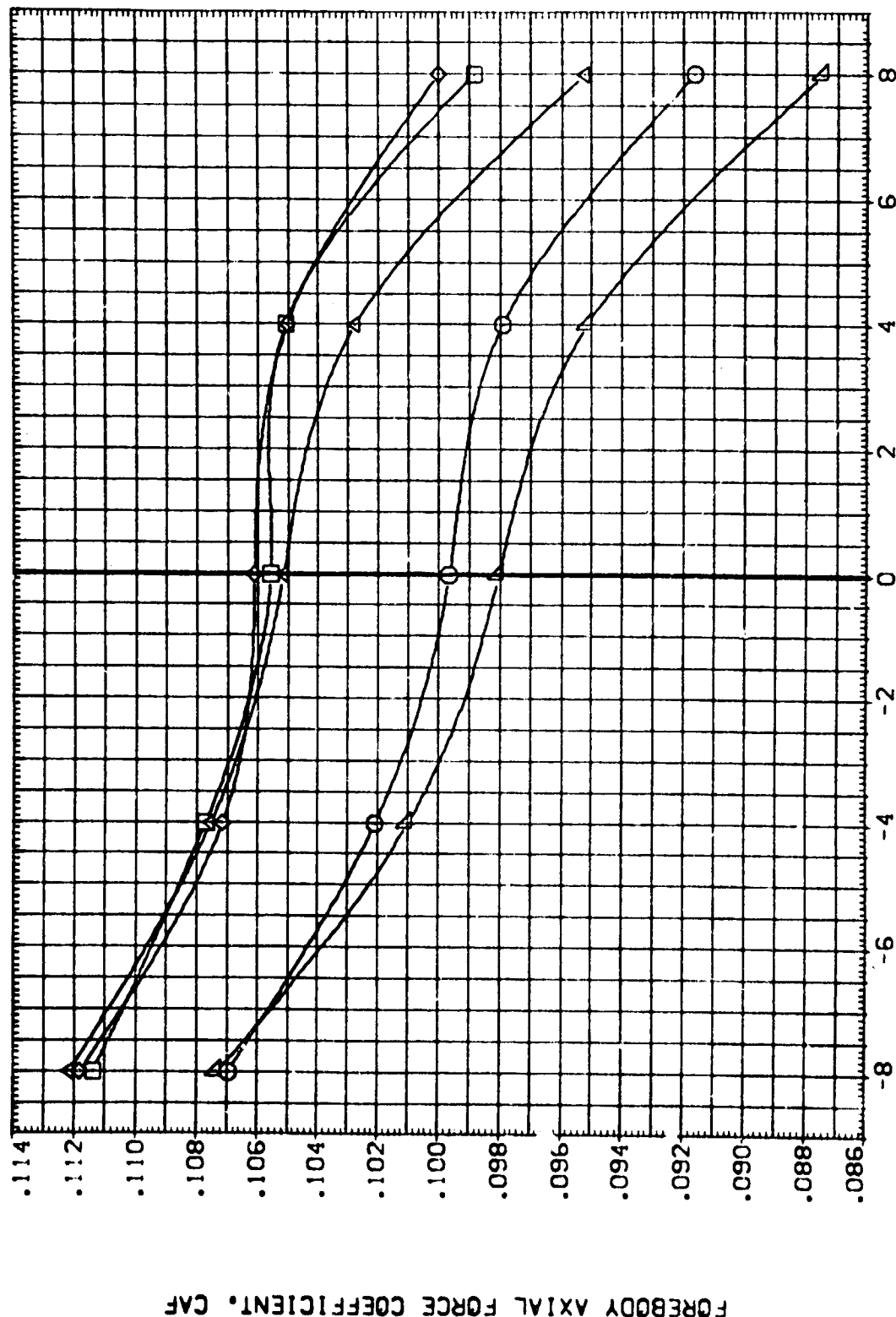


FIG. 35 LVAP (01 T12 S12 N25 AT11) , MACH = 1.4 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1040)

SYMBOL	BETA	MACH	PARAMETRIC VALUES	REFERENCE INFORMATION	SD.FT.
○	-8.000	1.398	ELEVON	SREF	2.4210
○	-4.000	.000	ELEVON	LREF	38.7090
○	.000	.000	SPDRK	BREF	38.7090
◇	4.000	.000		XMRP	.0000
△	8.000	.000		YMRP	.0000
				ZMRP	9.9900
				SCALE	.0300

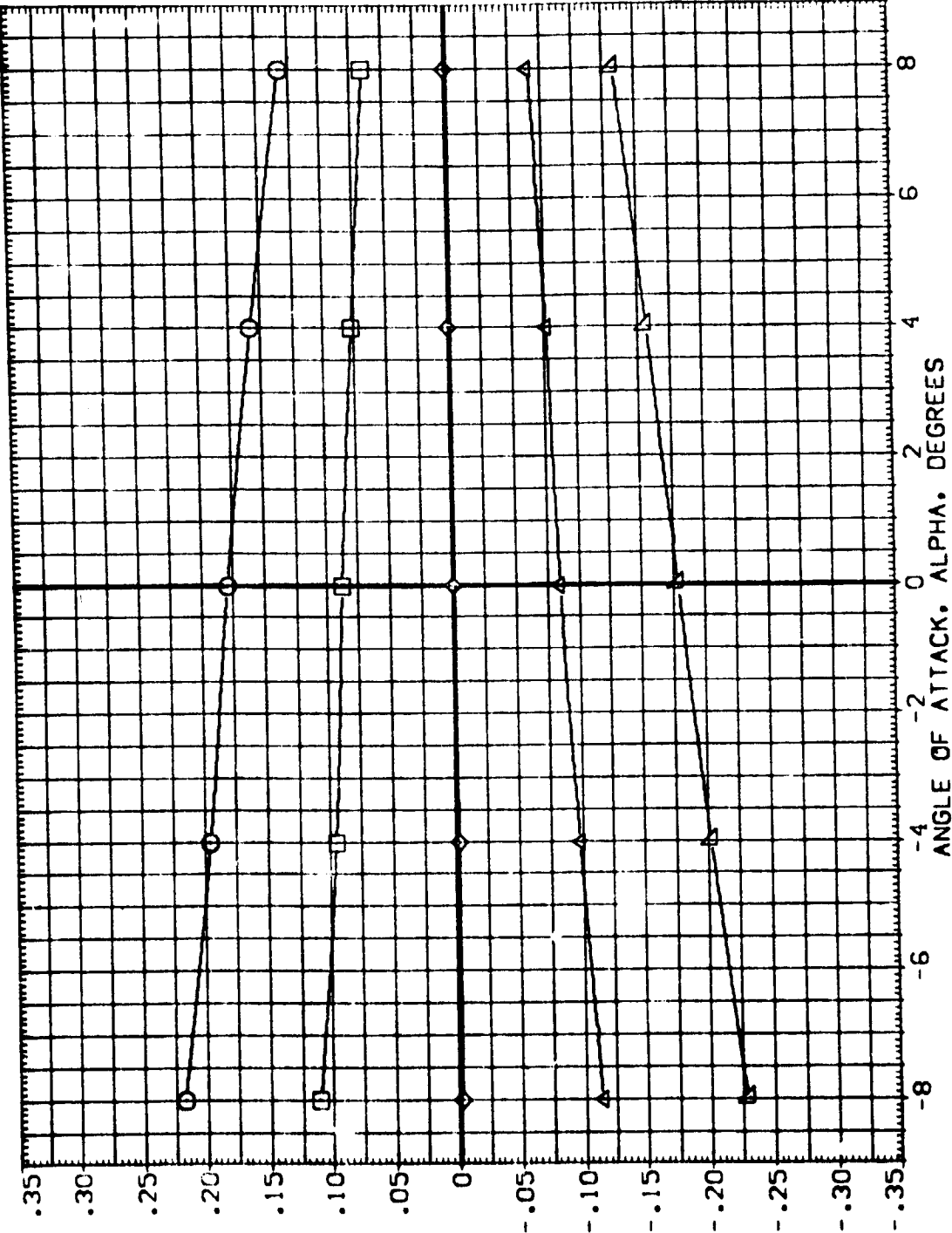


FIG. 35 LVAP (01 T12 S12 N25 AT11) , MACH = 1.4 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25+AT11 (ORBITER) (1B1040)

SYMBOL
 ○ □ ◇ △ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 1.398
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 SPDRK

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

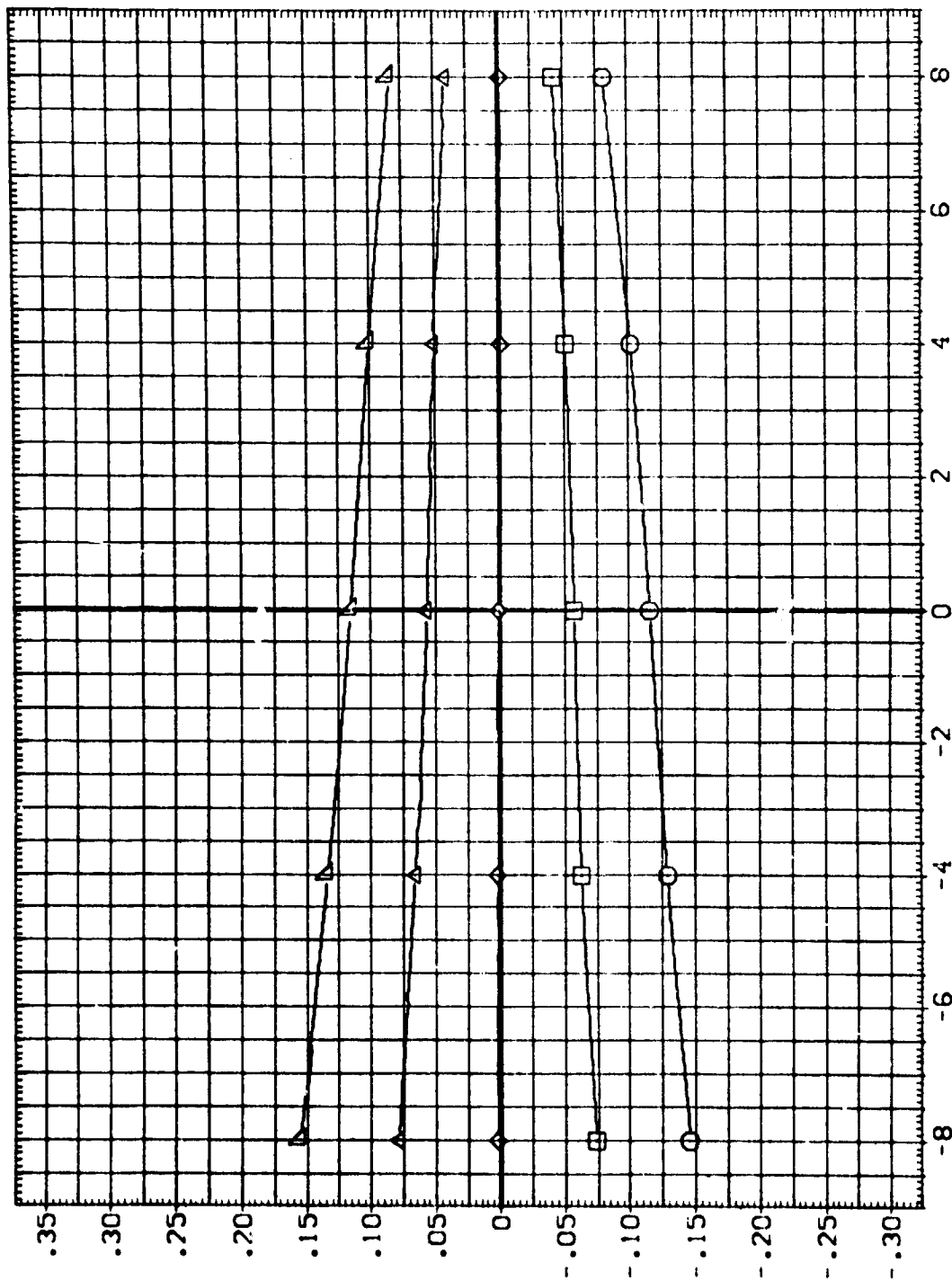


FIG. 35 LVAP (01 T12 S12 N25 AT11) . MACH = 1.4 (ORBITER BALANCE)

AMES 11-716 1A14A 01+112+S12 N25+AT11 (ORBITER) (IB1040)

SYMBOL	BETA	MACH	PARAMETRIC VALUES	REFERENCE INFORMATION
○	-8.000	FLUOR	1.358	SREF 2.4210
□	-4.000		ELEVON	LREF 38.7090
◇	.000		SPDRK	BREF 38.7090
△	4.000			XMRP .0000
▽	8.000			YMRP .0000
				ZMRP 9.9900
				SCALE .0300

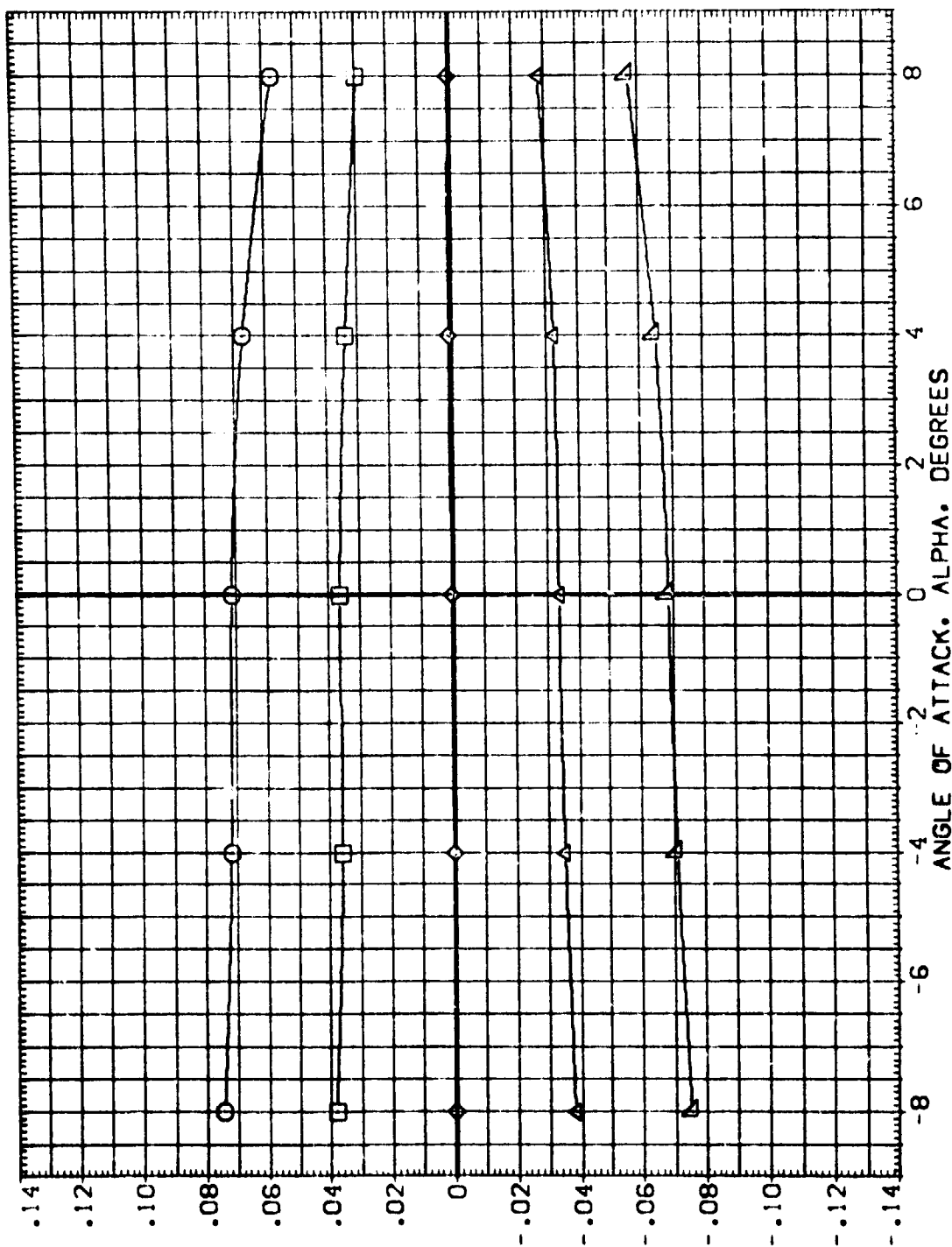


FIG. 35 LVAP (01 112 S12 N25 AT11) , MACH = 1.4 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1041)

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AMES 11-716 1A14A 01+112+S12 N25 (ORBITER) (1B1041)

SYMBOL
 ▽ ◆ □ ◇ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUOER

PARAMETRIC VALUES
 .597 ELEVON
 .000 SPOBRK

.000

REFERENCE INFORMATION
 SREF 2.4210 50. FT.
 LREF 38.7080 IN.
 BREF 38.7080 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9830 IN.
 SCALE .0300

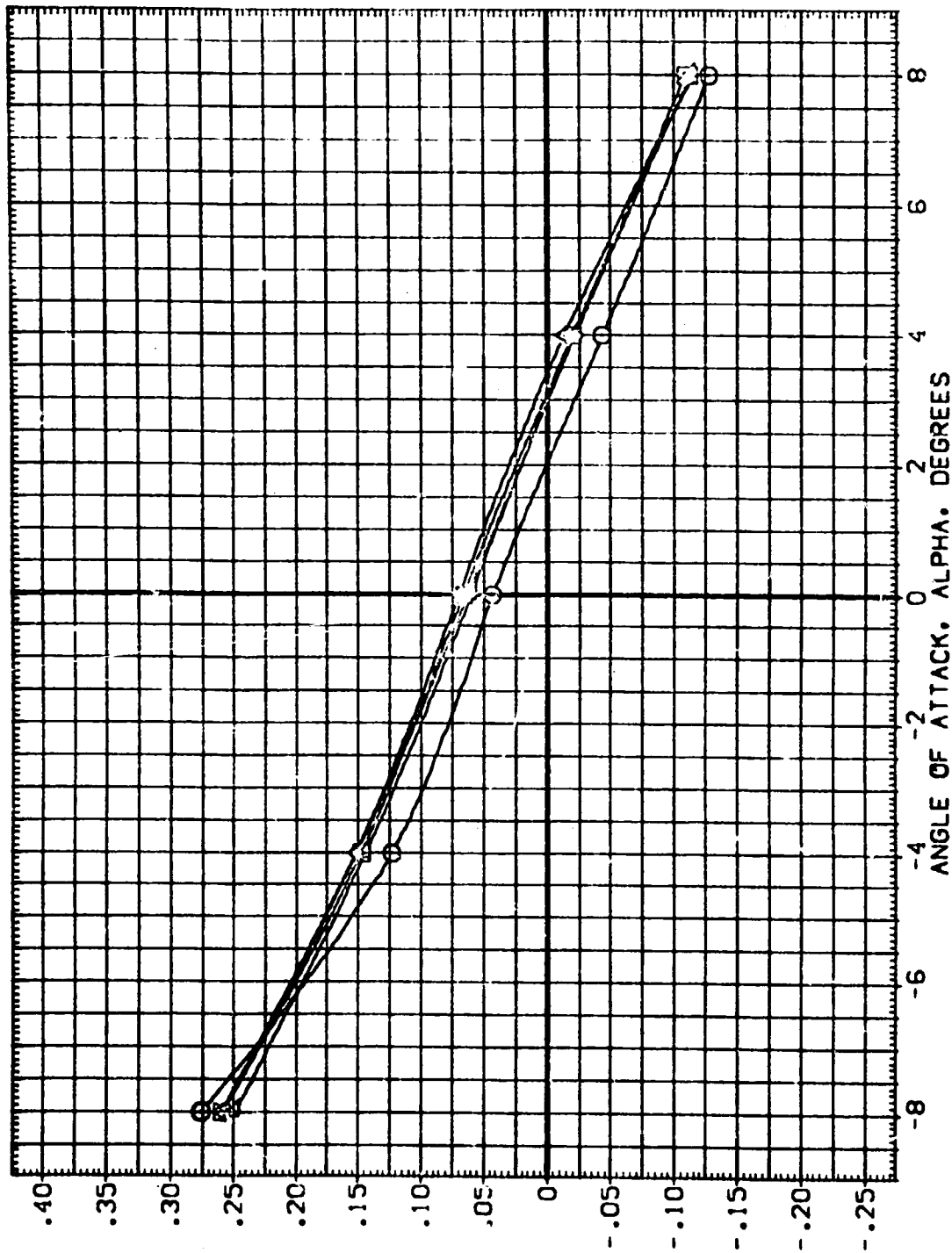


FIG. 36 LV (01 112 S12 N25) • MACH = .6 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1041)

SYMBOL
 7
 4
 4
 0
 0
 0

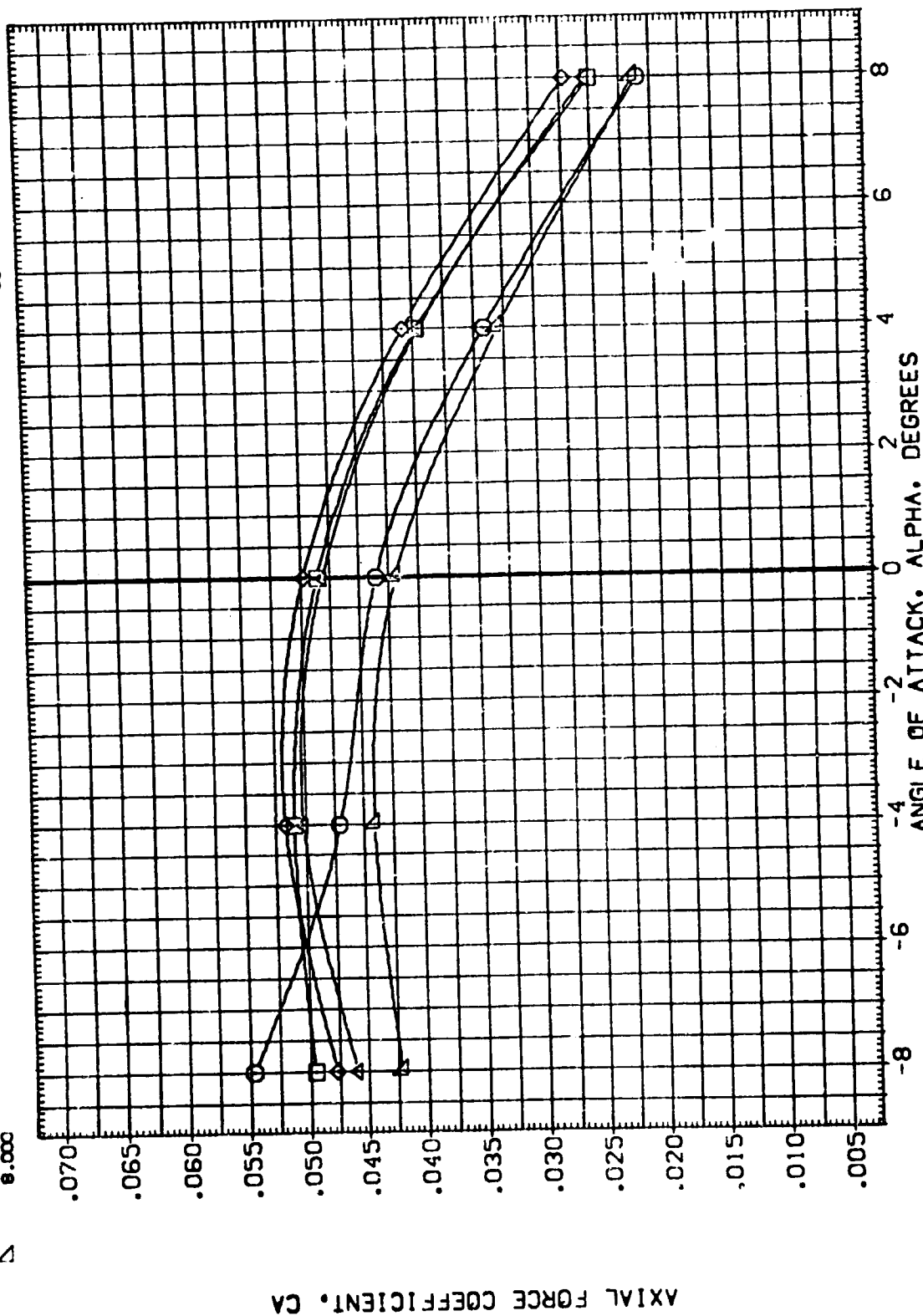
BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .597
 .000
 .000
 .000
 .000
 .000

ELEVON
 SPOON

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 YMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300



(ORBITER BALANCE)

FIG. 36 LV (01 T12 S12 N25) • MACH = .6

Symptoms

FIG. 36 LV (01 T12 S12 N25) ; MACH = .6 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (181041)

SYMBOL
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 □
 ◇
 △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH
 RUDDER
 .597
 .000
 ELEVON
 SPDRK
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.8900 IN.
 SCALE .0300

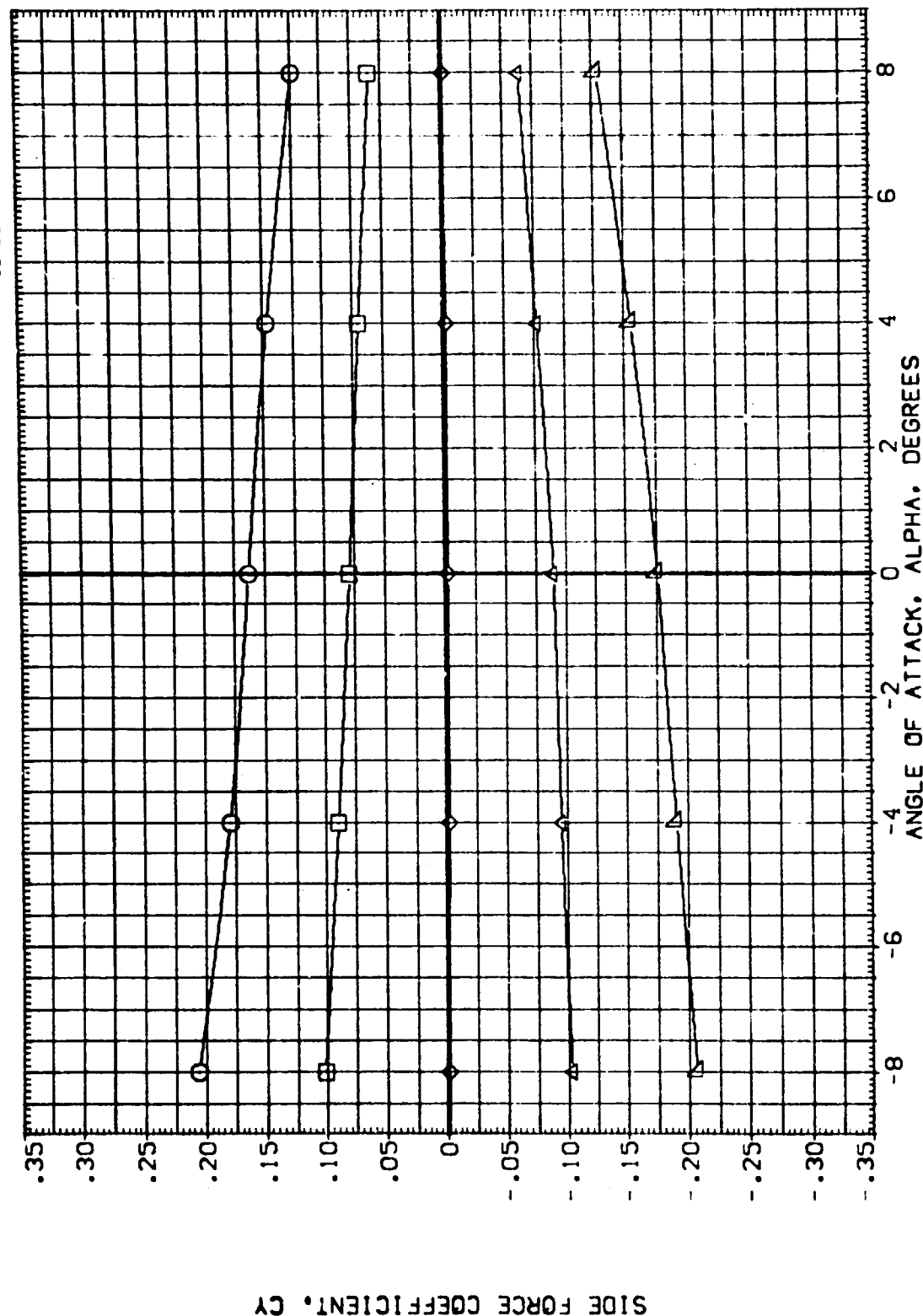


FIG. 36 LV (01 T12 S12 N25) , MACH = .6

(ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1041)

SYMBOL
 ○ □ ◇ △ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 .597
 .000
 .000
 .000
 .000

ELEVON
 SPDRK
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9990
 SCALE .0300

50.FT.
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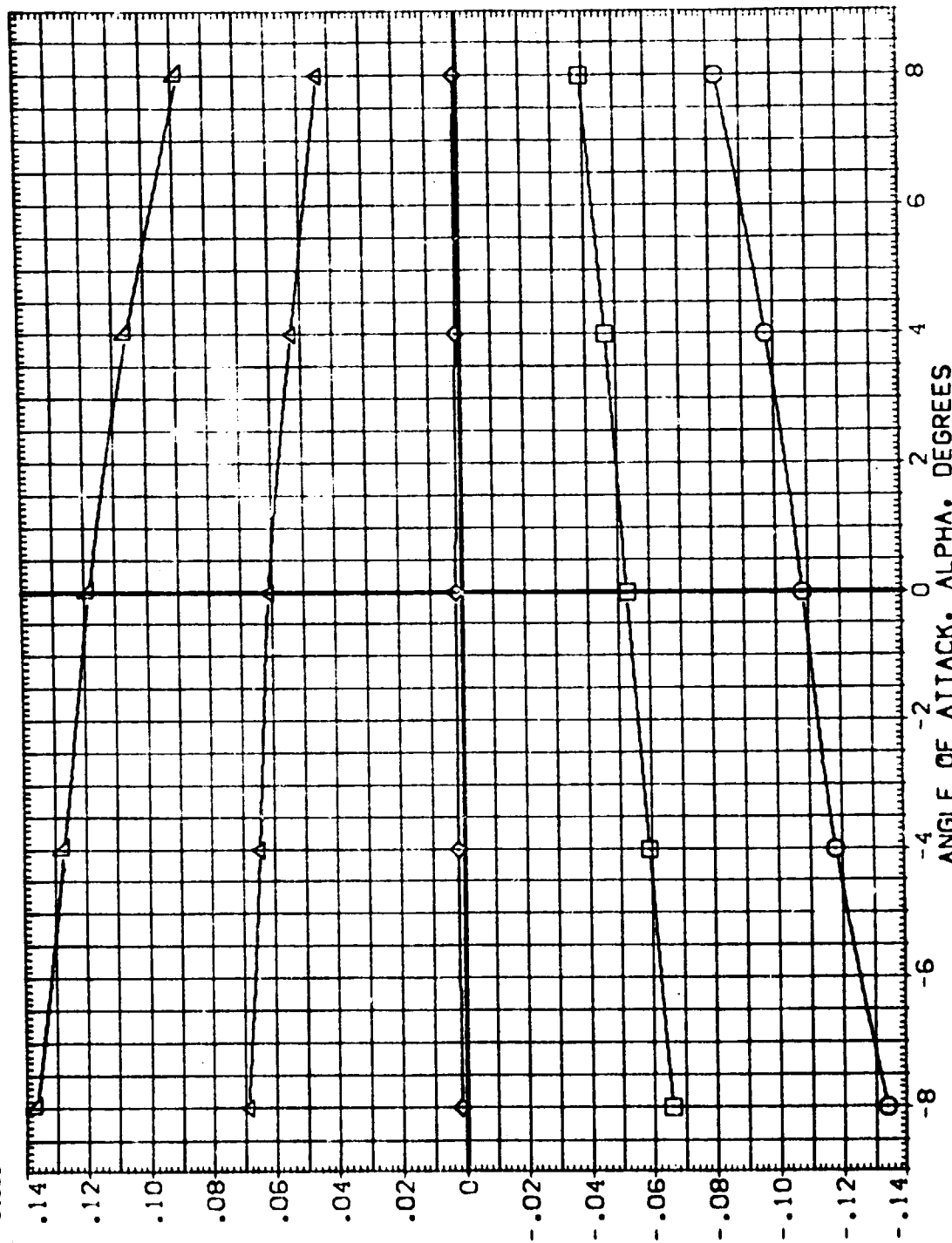


FIG. 36 LV (01 T12 S12 N25) • MACH = .6 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1041)

SYMBOL
○ □ ◇ △

BETA
-8.000
-4.000
.000
4.000

MACH
RUDER
ELEVON
SPORRK

PARAMETRIC VALUES
.597
.000
.000
8.000

REFERENCE INFORMATION
SREF 2.4210 SQ.FT.
LREF 38.7080 IN.
BREF 38.7080 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9900 IN.
SCALE .0300

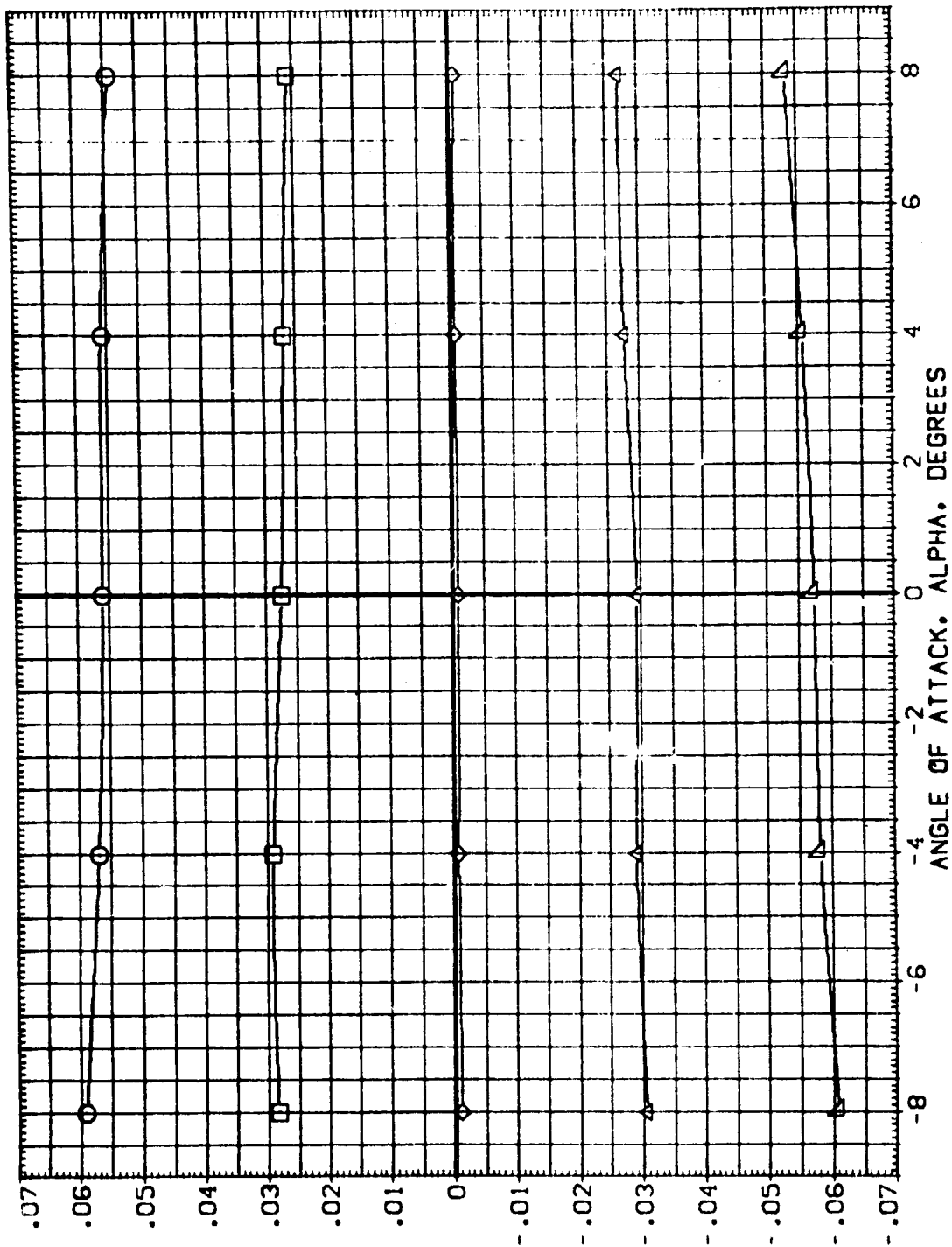


FIG. 36 LV (01 T12 S12 N25) • MACH = .6 (ORBITER BALANCE)

(ORBITER) (IB1042)

AMES 11-716 1A14A 01+T12+S12 N25

SYMBOL
▽
◇
□
○
△

BETA
-8.000
-4.000
.000
4.000
8.000

MACH
RUDDER

PARAMETRIC VALUES
.750 ELEVON
.000 SPOBRK

.000
.000

REFERENCE INFORMATION
SQ.FT.
SREF 2.4210
LREF 38.7090
BREF 38.7090
XREF .0000
YREF .0000
ZREF 9.8000
SCALE .0000

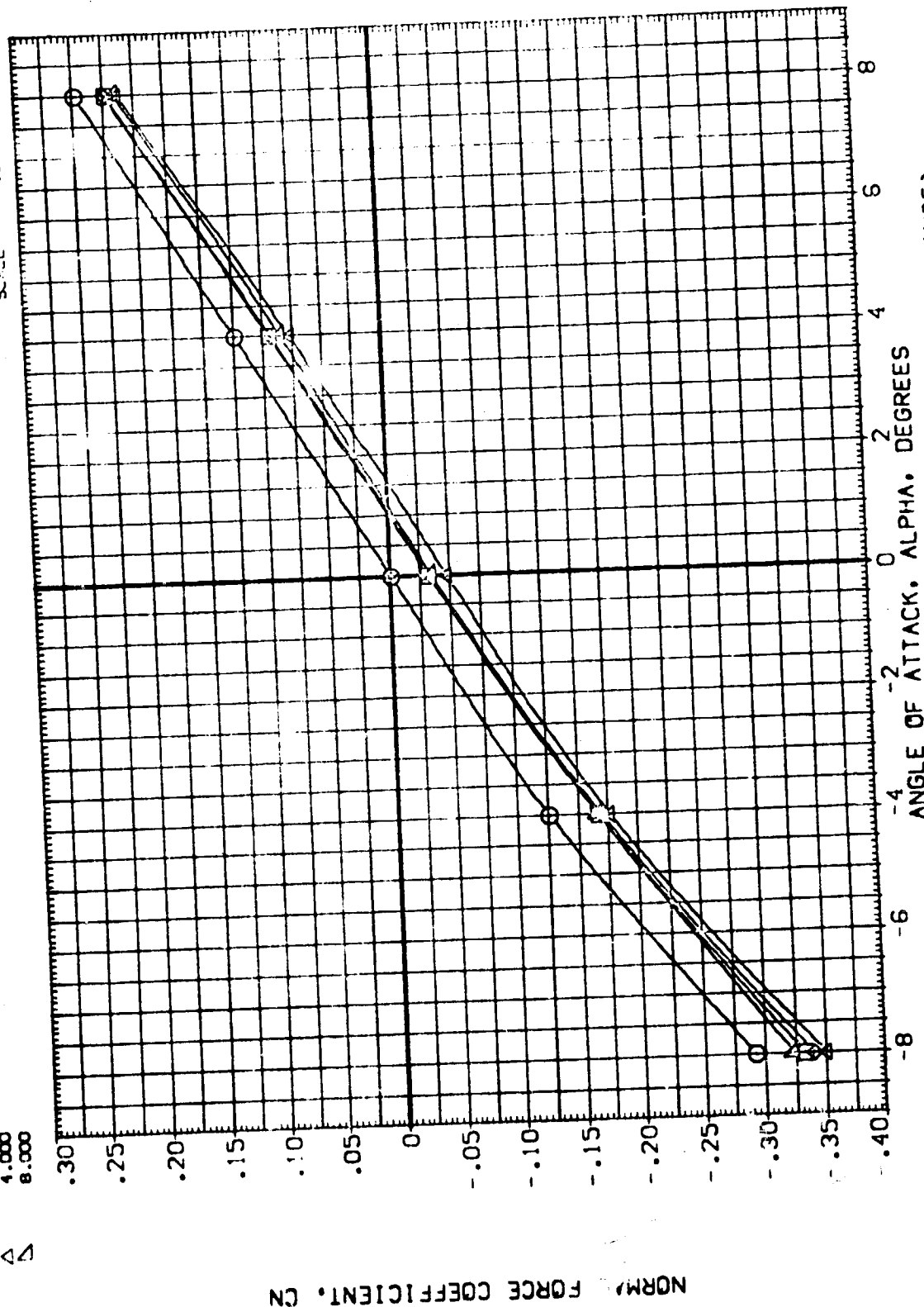


FIG. 37 LV (01 T12 S12 N25) • MACH = .75

(ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (181042)

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000
 MACH .000
 RUDDER .000
 ELEVON .000
 SPOBRK .000

SYMBOL
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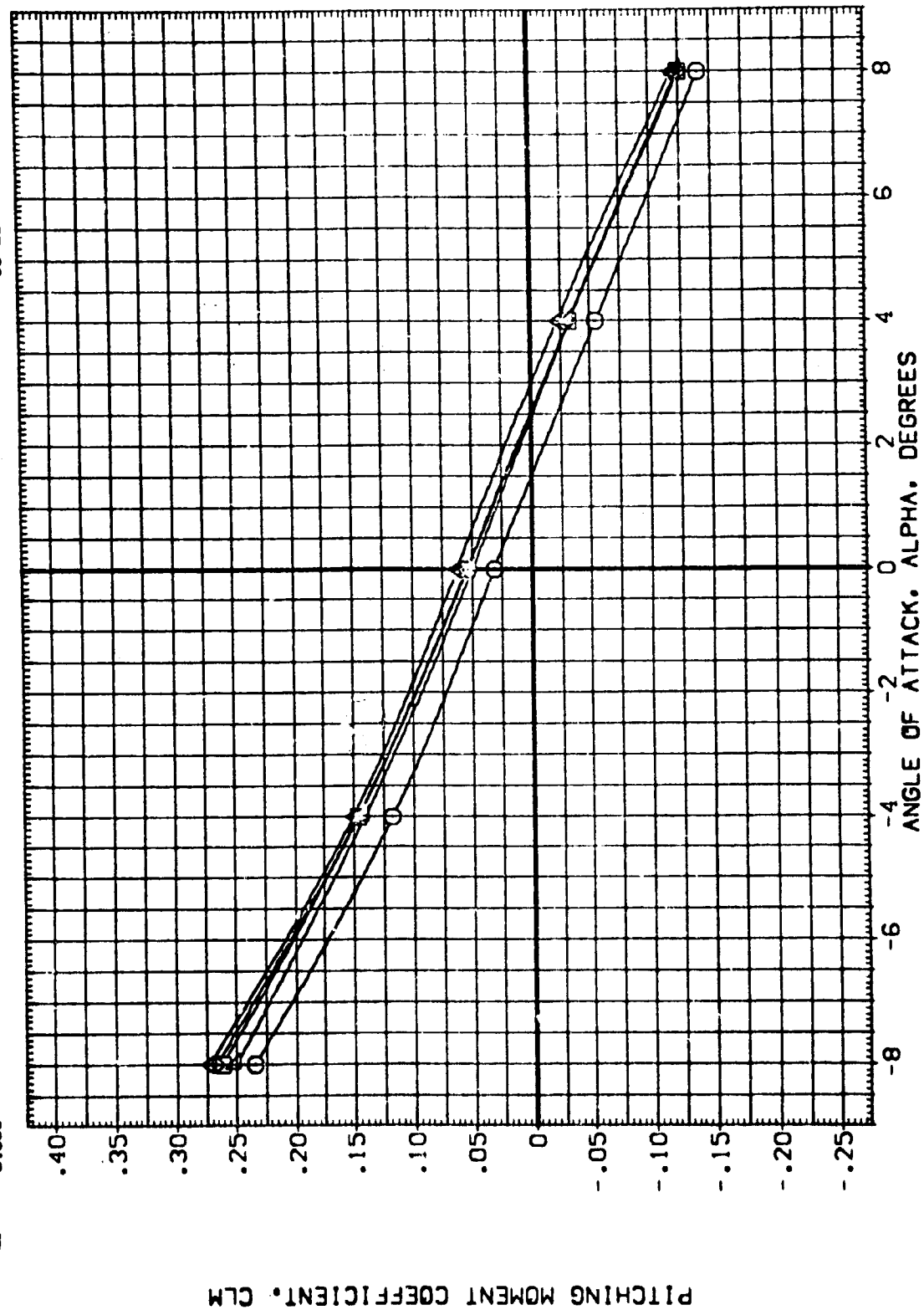


FIG. 37 LV (01 T12 S12 N25) • MACH = .75 (ORBITER BALANCE)

AMES 11-716 1A14A 01+112+S12 N25 (ORBITER) (1B1042)

SYMBOL
□ □ ◇ △ ▽

BETA
-8.000
-4.000
.000
4.000
8.000

PARAMETRIC VALUES
MACH .750
ELEVON .000
SPDRBK .000

.000
.000

REFERENCE INFORMATION
SREF 2.4210 SQ.FT.
LREF 38.7080 IN.
BREF 38.7080 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.5900 IN.
SCALE .0300

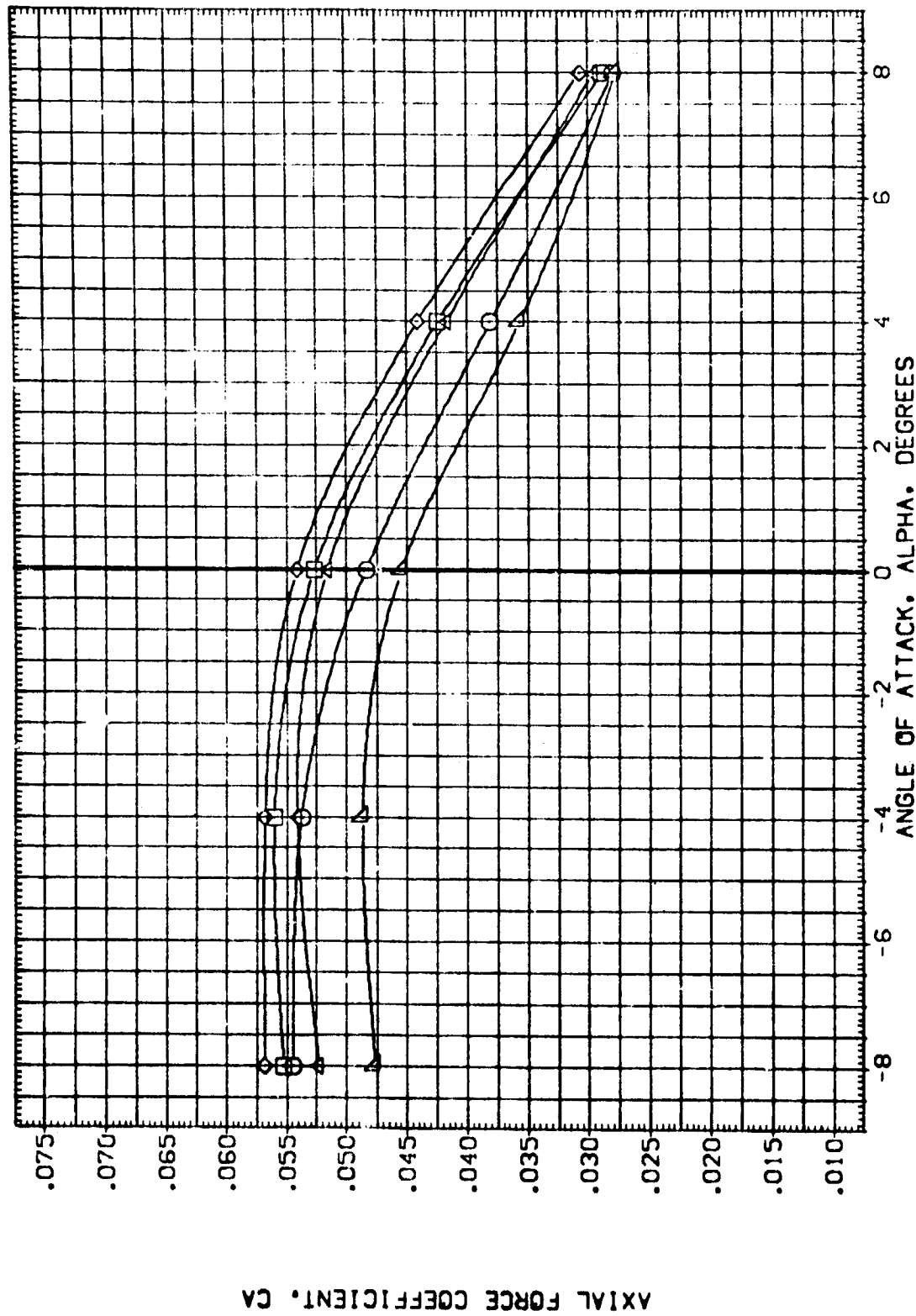


FIG. 37 LV (01 112 S12 N25) • MACH = .75 (ORBITER BALANCE)

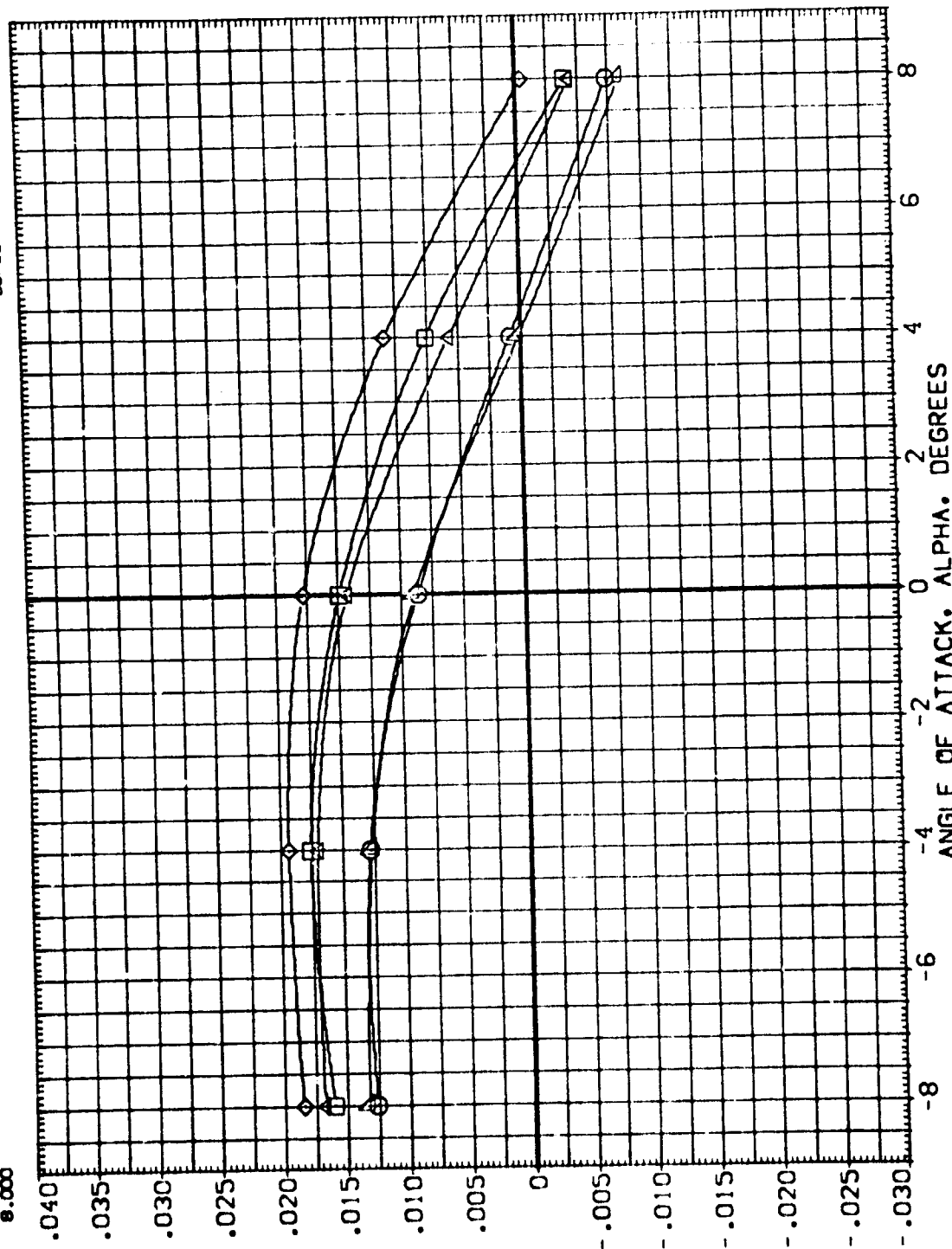
AMES 11-716 1A14A 01:T12+S12 N25 (ORBITER) (1B1042)

SYMBOL
 ▽ ◆ □ ◇ ▲

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .750
 ELEVON .000
 RUDDER .000
 SPEEDBRK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7050
 BREF 38.7050
 XMRP .0000
 YMRP .0000
 ZMRP 9.9800
 SCALE .0303



(ORBITER BALANCE)

FIG. 37 LV (01 T12 S12 N25) , MACH = .75

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER, (IR1042)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 .750
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 SPDRN

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

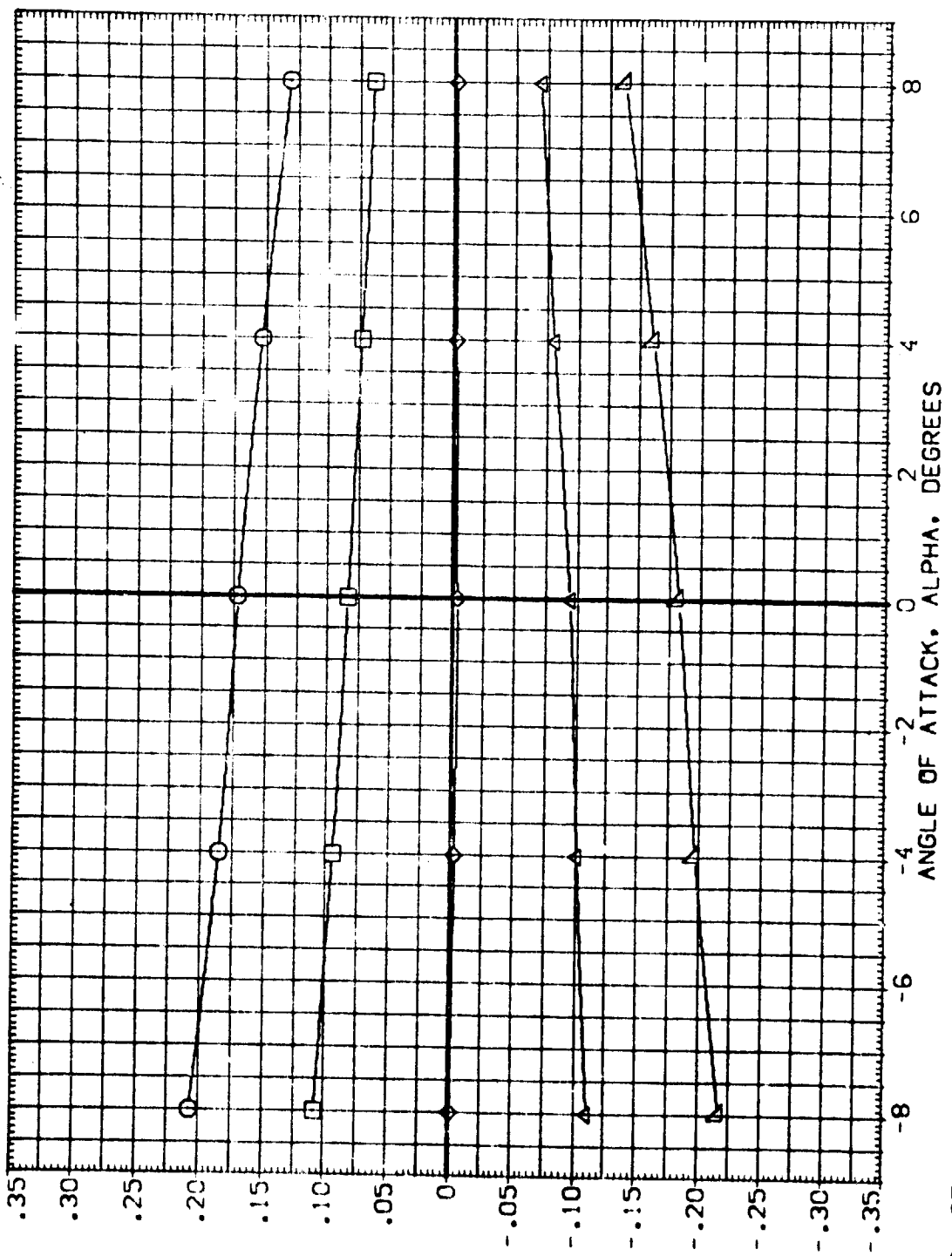


FIG. 37 LV (01 T12 S12 N25) , MACH = .75 (ORBITER BALANCE)

BETA	MACH	RUDDER
-6.000		
-4.000		
.000		
4.000		
8.000		

SYMBOL 011044

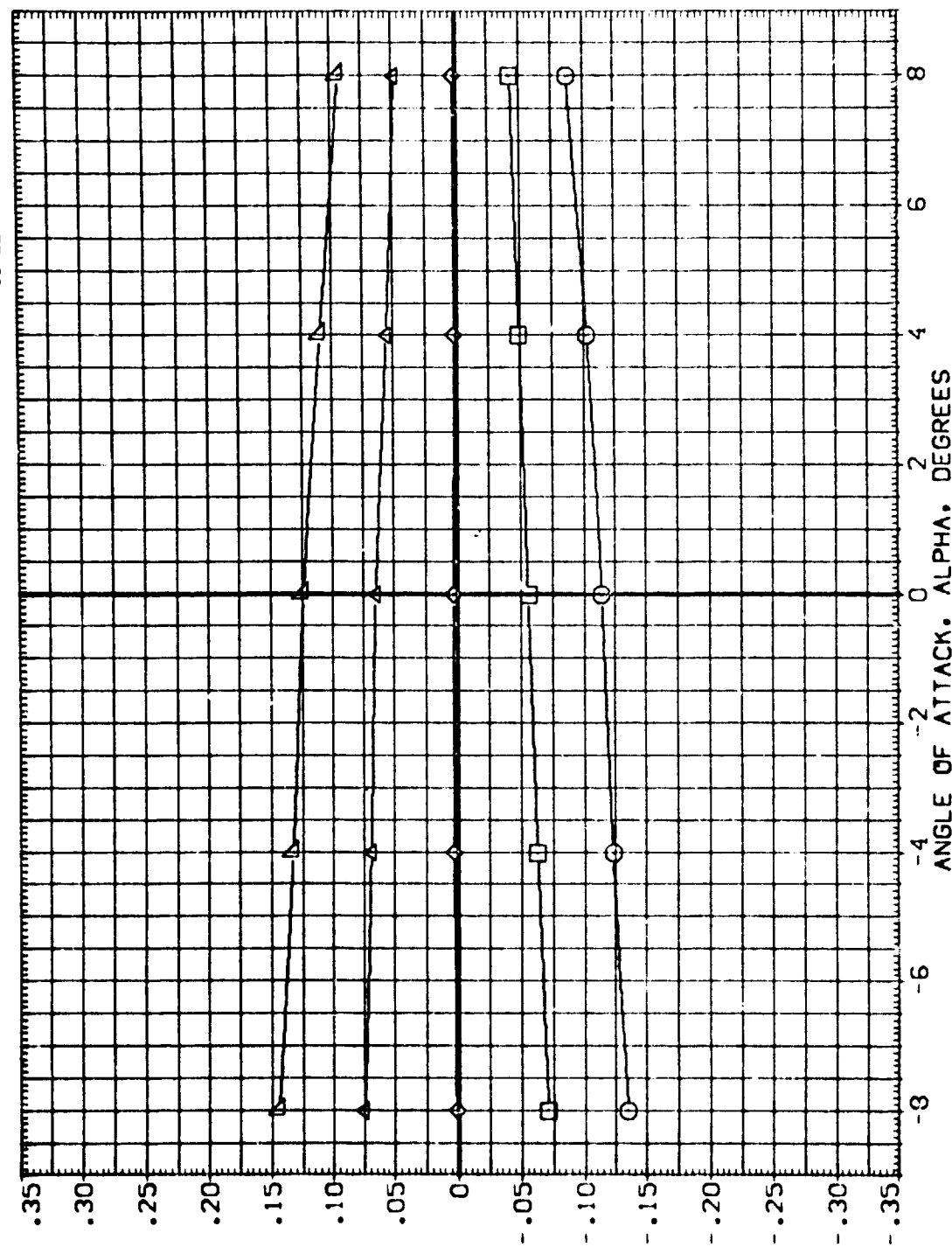


FIG. 37 LV (01 T12 S12 N25) , MACH = .75 (ORBITER BALANCE)

AMES 11-7:6 1A14A 01+T12+S12 N25 (ORBITER) (1B1043)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .653 ELEVON
 .100 SPOBRK

.000
 .000

REFERENCE INFORMATION
 SQ.FT.
 2.4210
 38.7050
 38.7050
 .0000
 .0000
 9.9500
 .0300

SPCF
 LREF
 BREF
 XMRP
 YMRP
 ZMRP
 SCALE

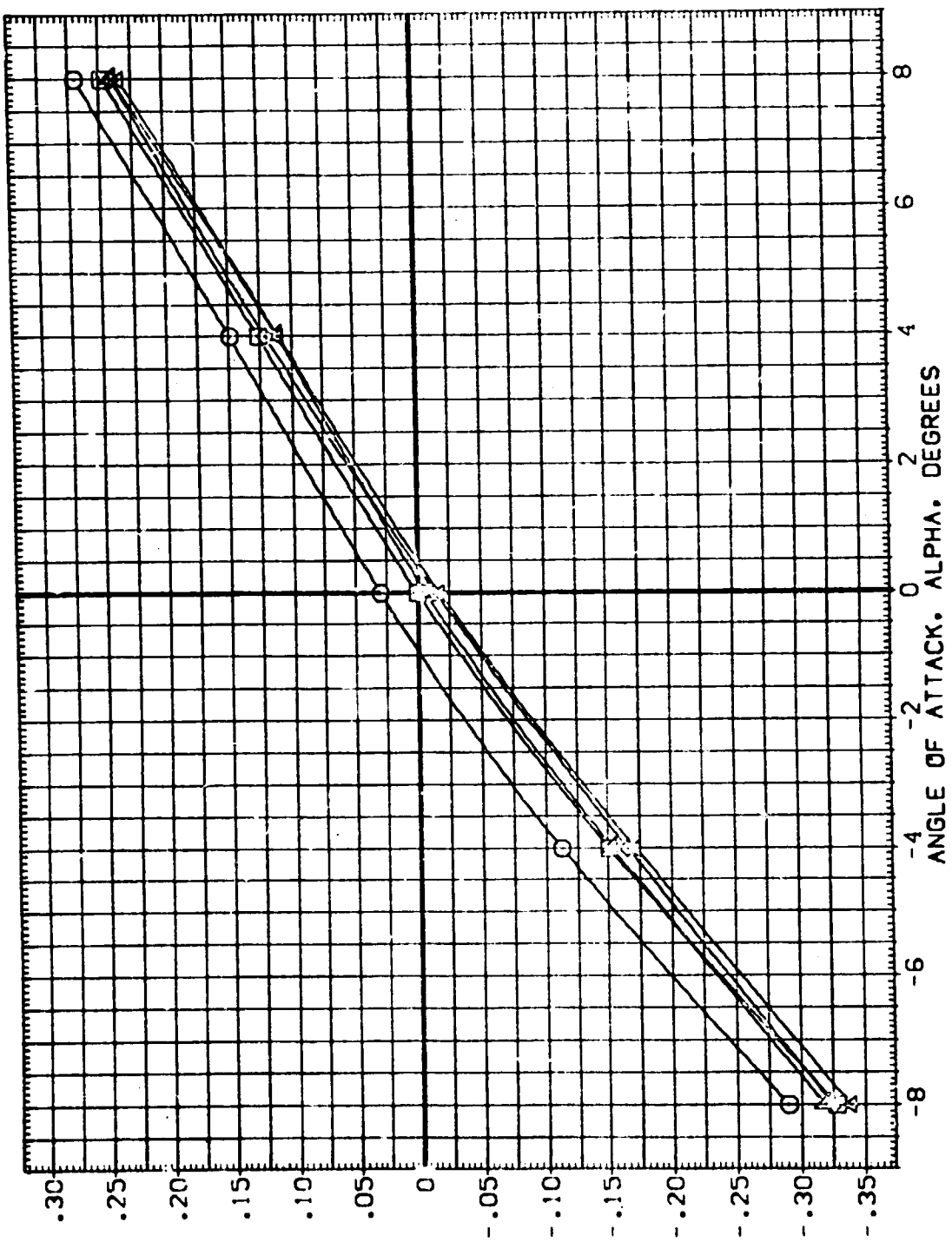


FIG. 38 LV (01 T12 S12 N25) , MACH = .85 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1043)

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 YREF 0.0000
 ZREF 0.0000
 SCALE 0.0000

PARAMETRIC VALUES
 MACH .853
 ELEVON .000
 RUDDER .000
 SPOBRK .000

SYMBOL
 -8.000
 -4.000
 4.000
 8.000

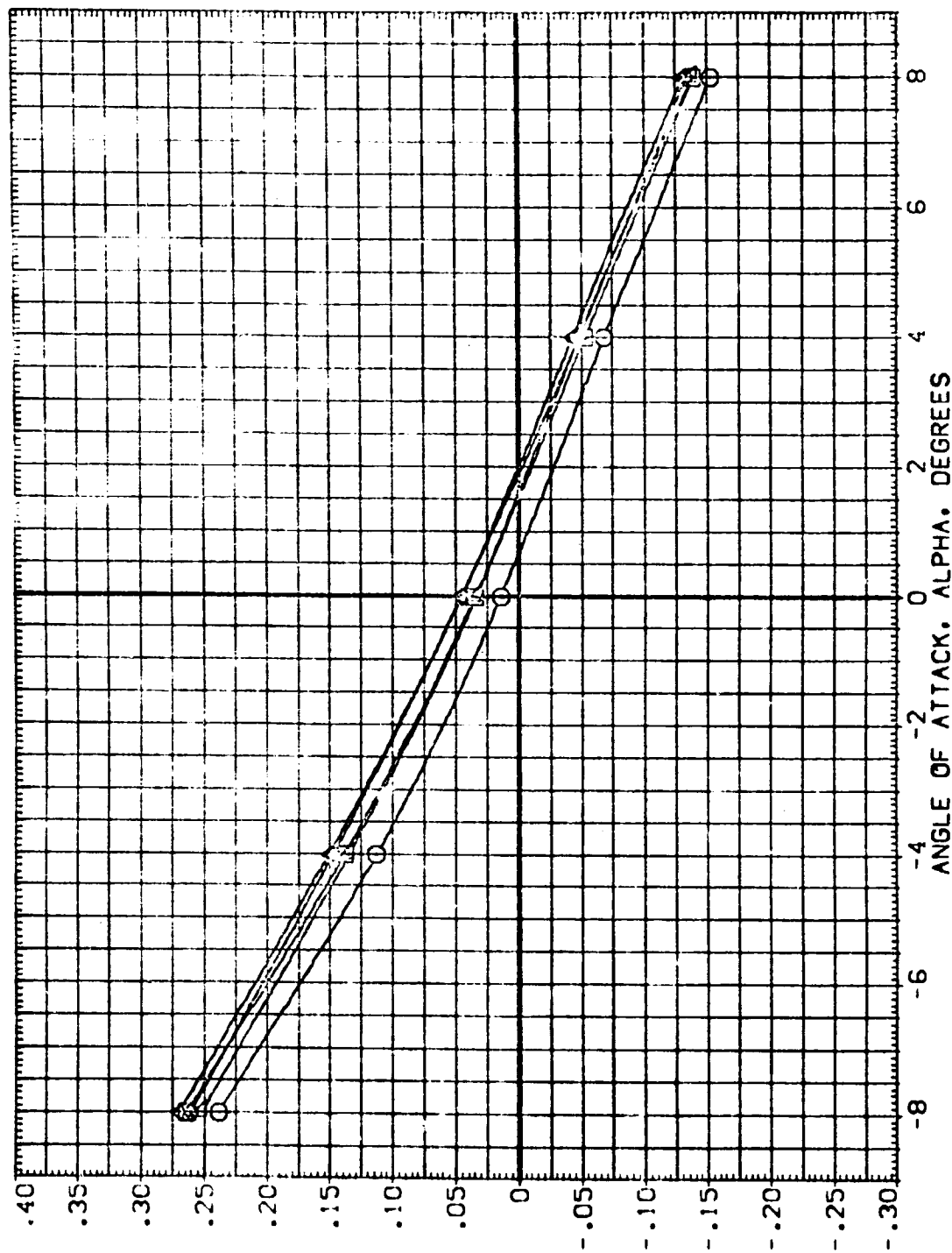


FIG. 38 LV (01 T12 S12 N25) • MACH = .85 (ORBITER BALANCE)

(ORBITER) (1B1043)

AMES 11-716 1A14A 01+T12+S12 N25

SYMBOL
 -8.000
 -4.000
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 4.000
 8.000

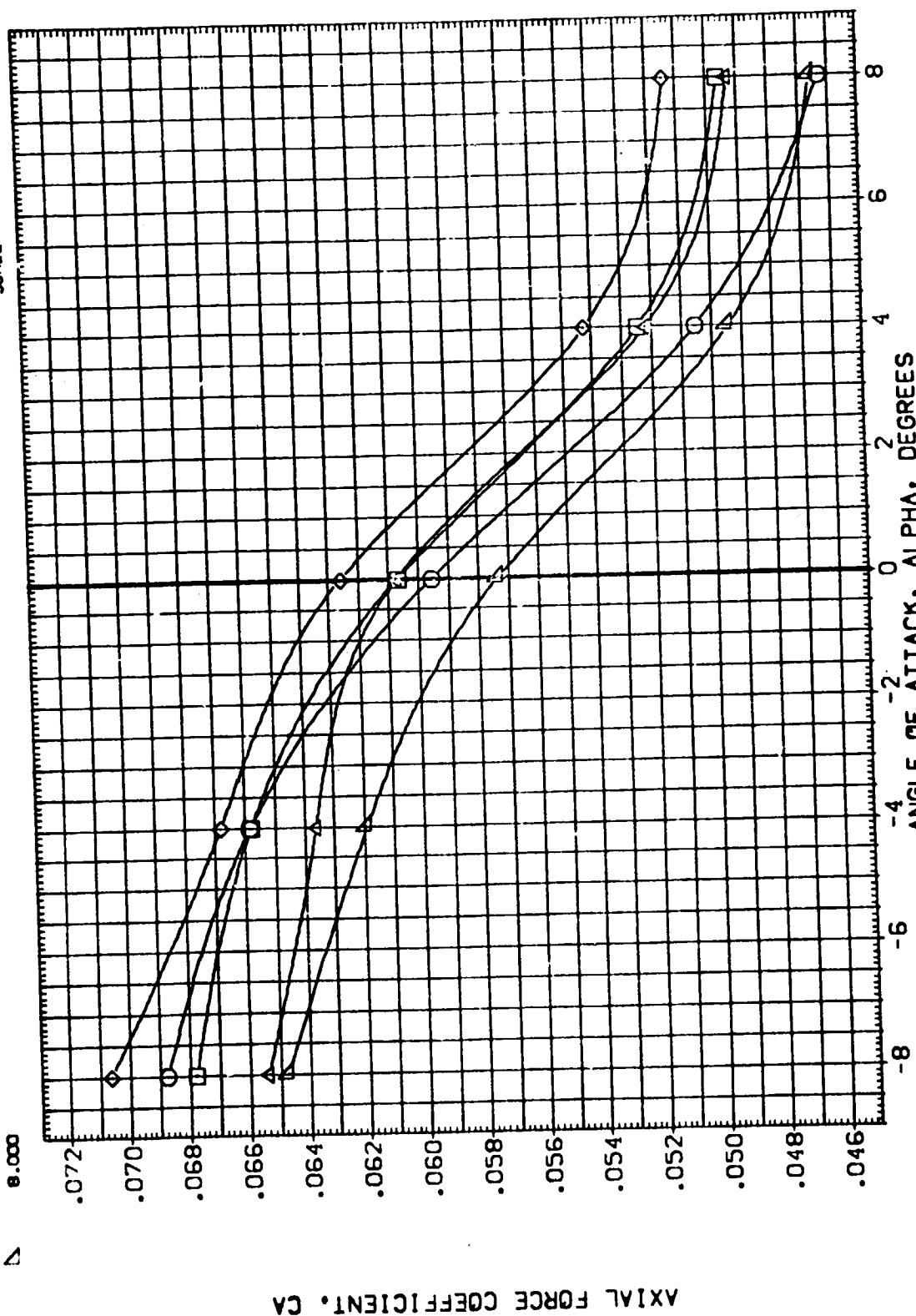
BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .853
 .000
 .000
 .000
 .000
 .000

ELEVON
 SPOBRK

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7050
 BREF 38.7050
 XMRP .0000
 YMRP .0000
 ZMRP 9.9933
 SCALE .0300



(ORBITER BALANCE)

FIG. 38 LV (01 T12 S12 N25) • MACH = .85

AMES 11-716 1A14A 01+112+S12 N25 (ORBITER) (181043)

SYMBOL
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BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .853 ELEVON
 .000 SPOBRK

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

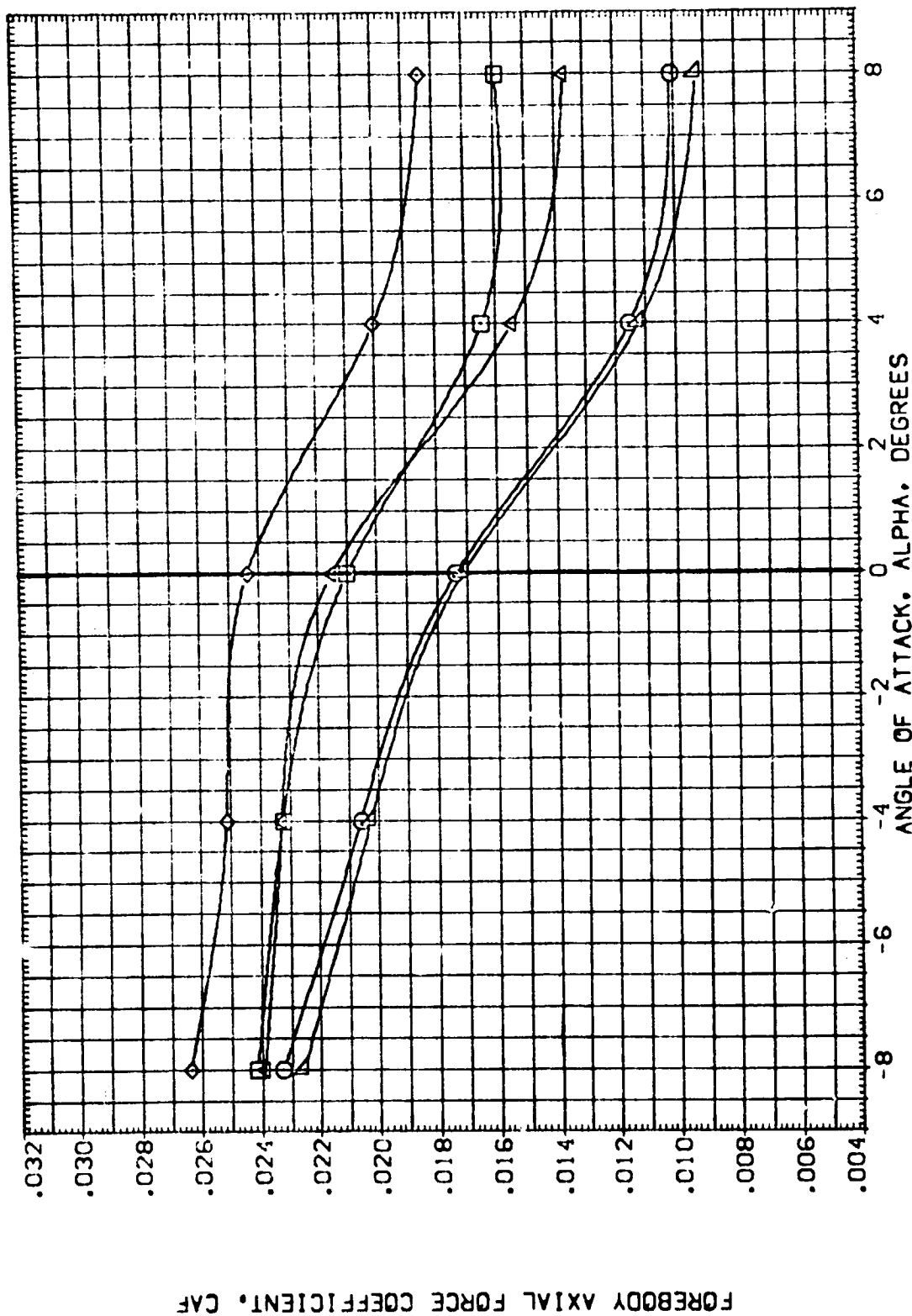


FIG. 38 LV (01 T12 S12 N25) • MACH = .85 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1043)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 .853
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 .000
 .000
 .000

ELEVON
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 .000

SPDRK
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 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

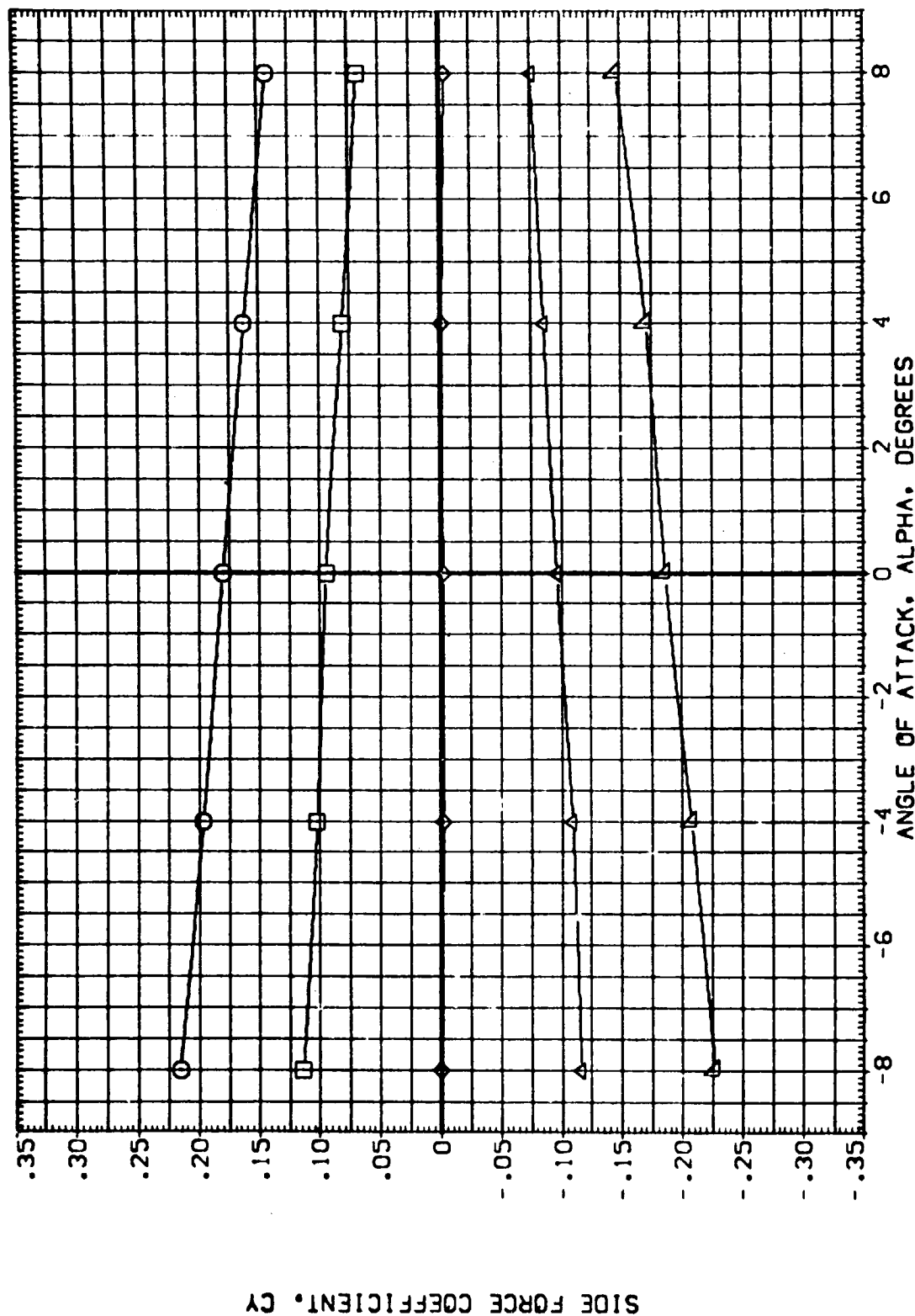


FIG. 38 LV (01 T12 S12 N25) • MACH = .85 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1043)

SYMBOL
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BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 .853
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 SPOBRK

REFERENCE INFORMATION
 SREF 2.4216
 LREF 38.7550
 BREF 38.7550
 XMRP .0000
 YMRP .0000
 ZMRP 9.8930
 SCALE .0300

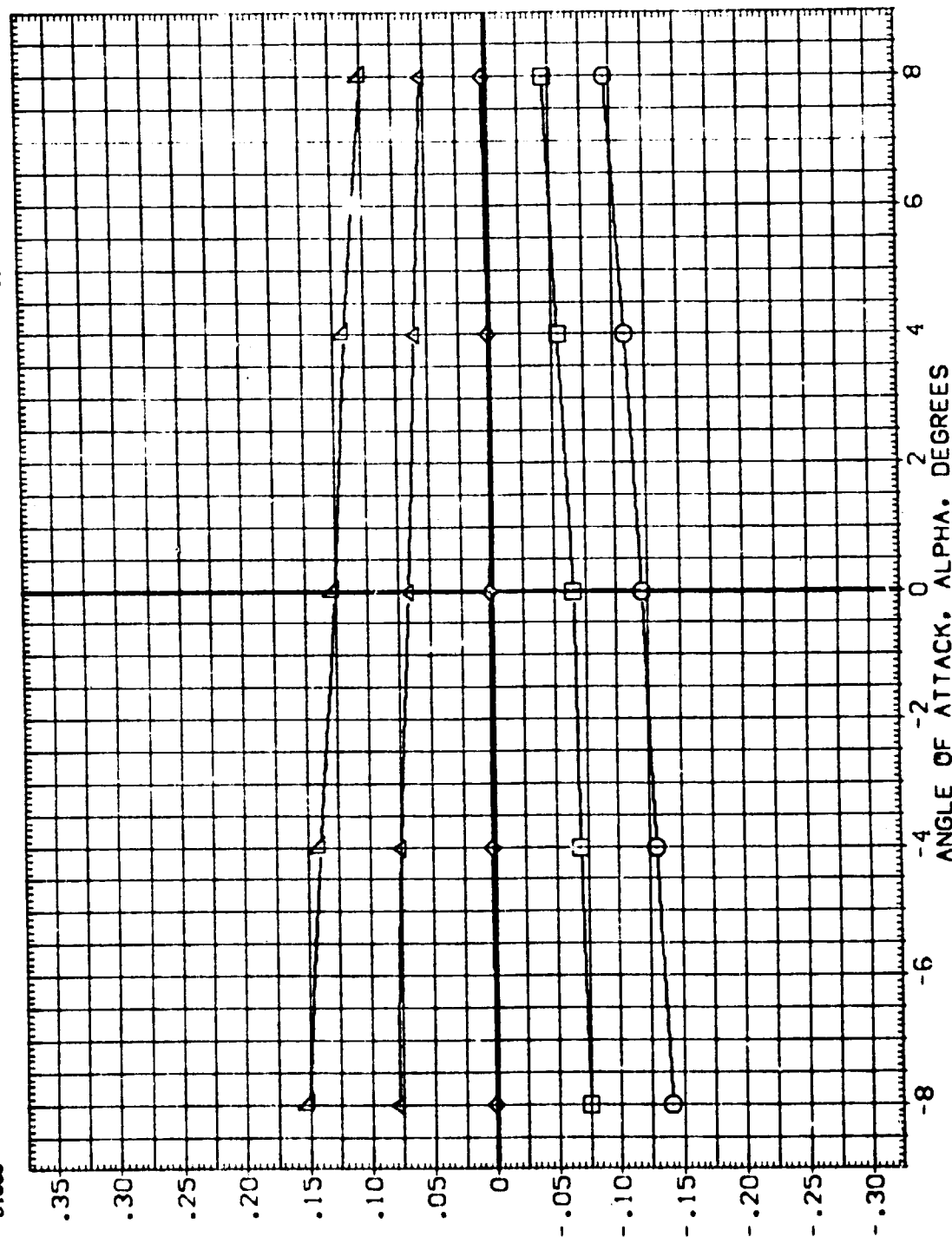


FIG. 38 LV (01 T12 S12 N25) • MACH = .85 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (181043)

SYMBOL
▽ ◆ ○ □

BETA
-8.000
-4.000
0.000
4.000
8.000

MACH
R-000

PARAMETRIC VALUES
.853 ELEVON
.000 SPEEDYK
.000

REFERENCE INFORMATION
SREF 2.4210
LREF 38.7090
BREF 38.7090
XMRP .0000
YMRP .0000
ZMRP 9.9900
SCALE .0300

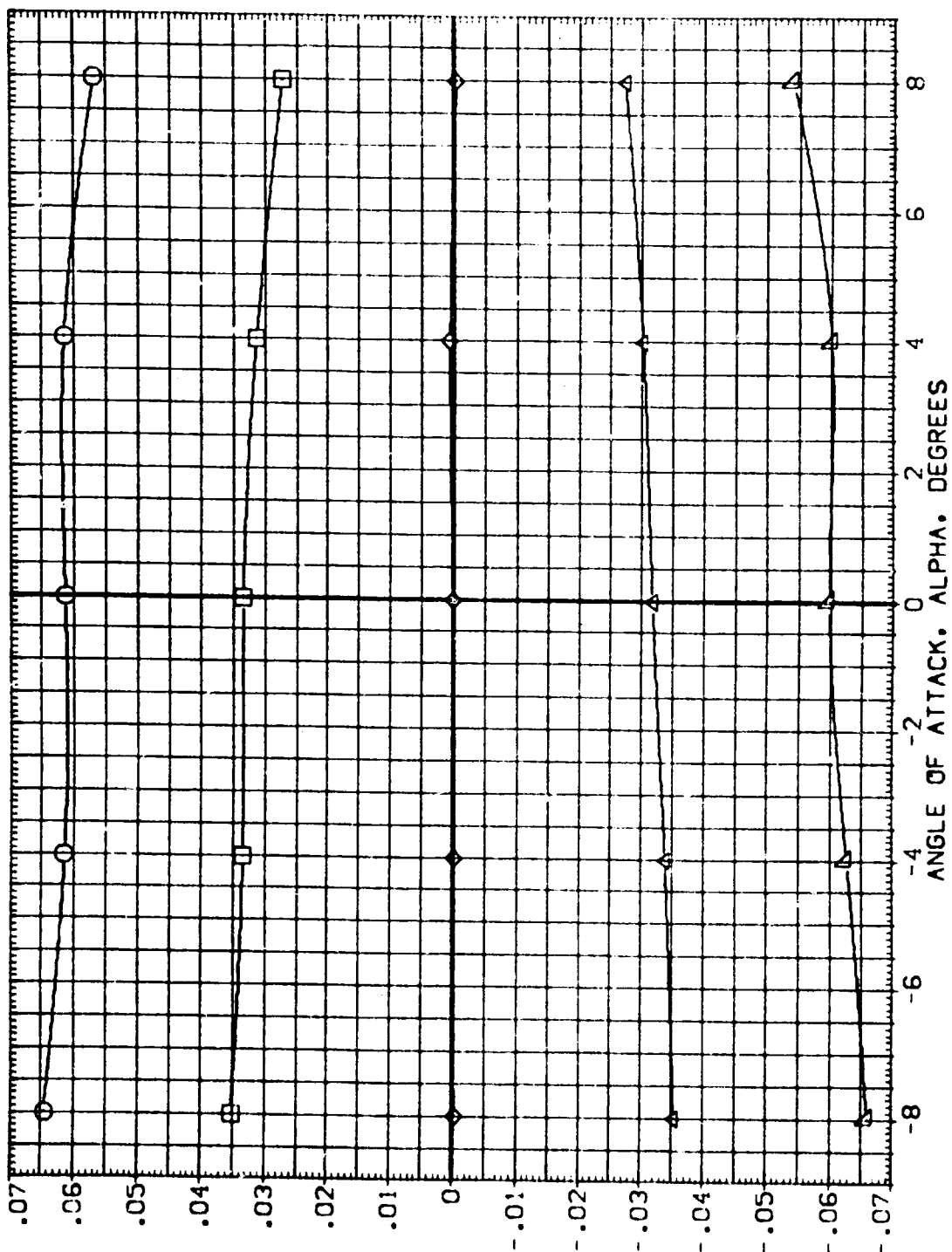


FIG. 38 LV (01 T12 S12 N25) , MACH = .85 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (IB1044)

SYMBOL
 V
 D
 O
 O
 V

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .900 ELEVON
 .000 SPOILER

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300
 50.FT.
 N.
 N.
 N.
 N.

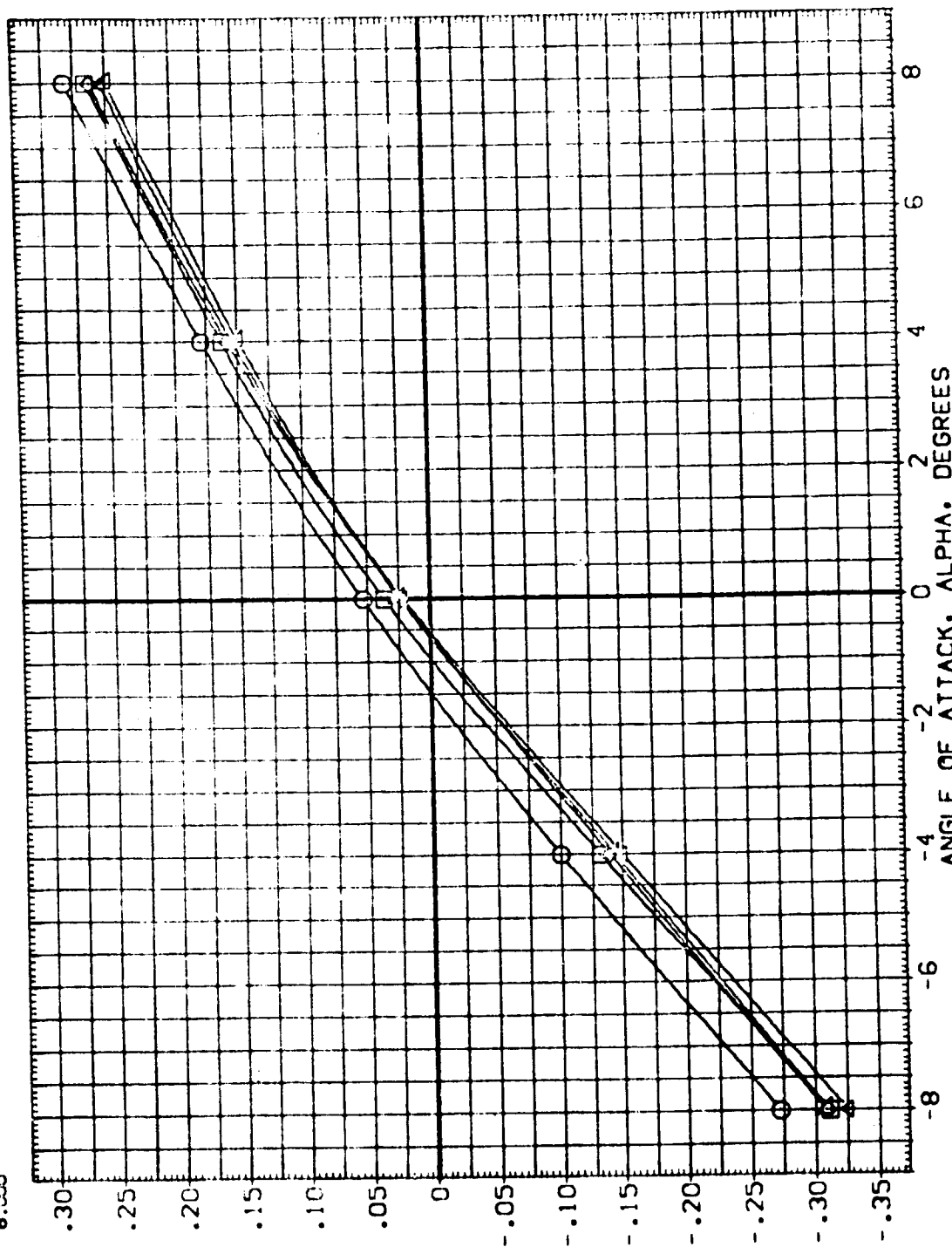


FIG. 39 LV (01 T12 S12 N25) • MACH = .90 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1044)

SYMBOL	BETA	MACH	PARAMETRIC VALUES	REFERENCE INFORMATION
▽	-8.000		.900	SREF 2.4210
◇	-4.000	RUDDER	.000	LREF 38.7080
○	.000		SPOBRK .000	BREF 38.7080
□	4.000			XMRP .0000
▽	8.000			YMRP .0000
				ZMRP 9.9900
				SCALE .0300
				SQ.FT.

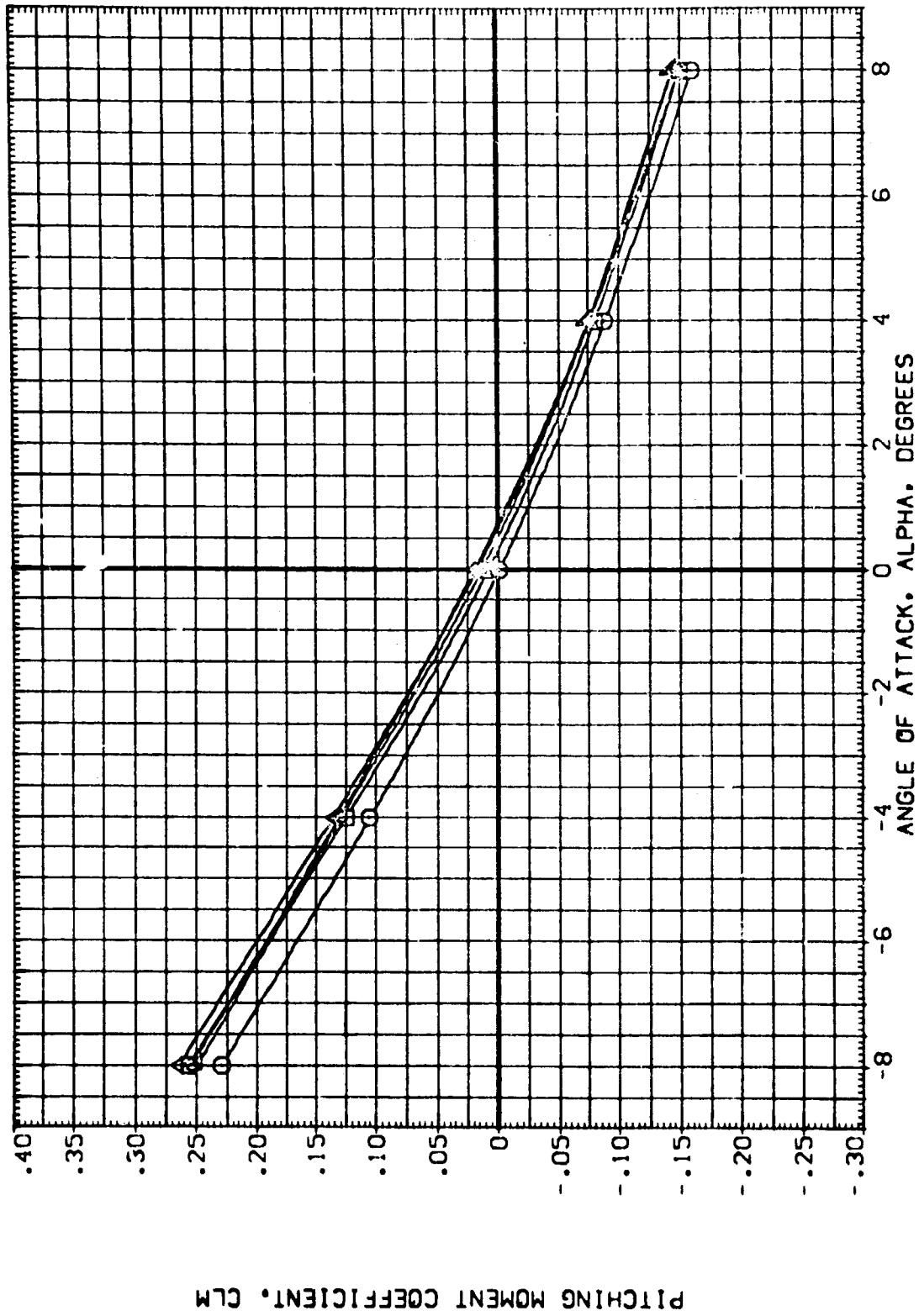


FIG. 39 LV (01 T12 S12 N25) • MACH = .90 (ORBITER BALANCE)

SYMBOL
 ◇
 ○
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 △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .500 ELEVON
 .000 SPOBRK

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

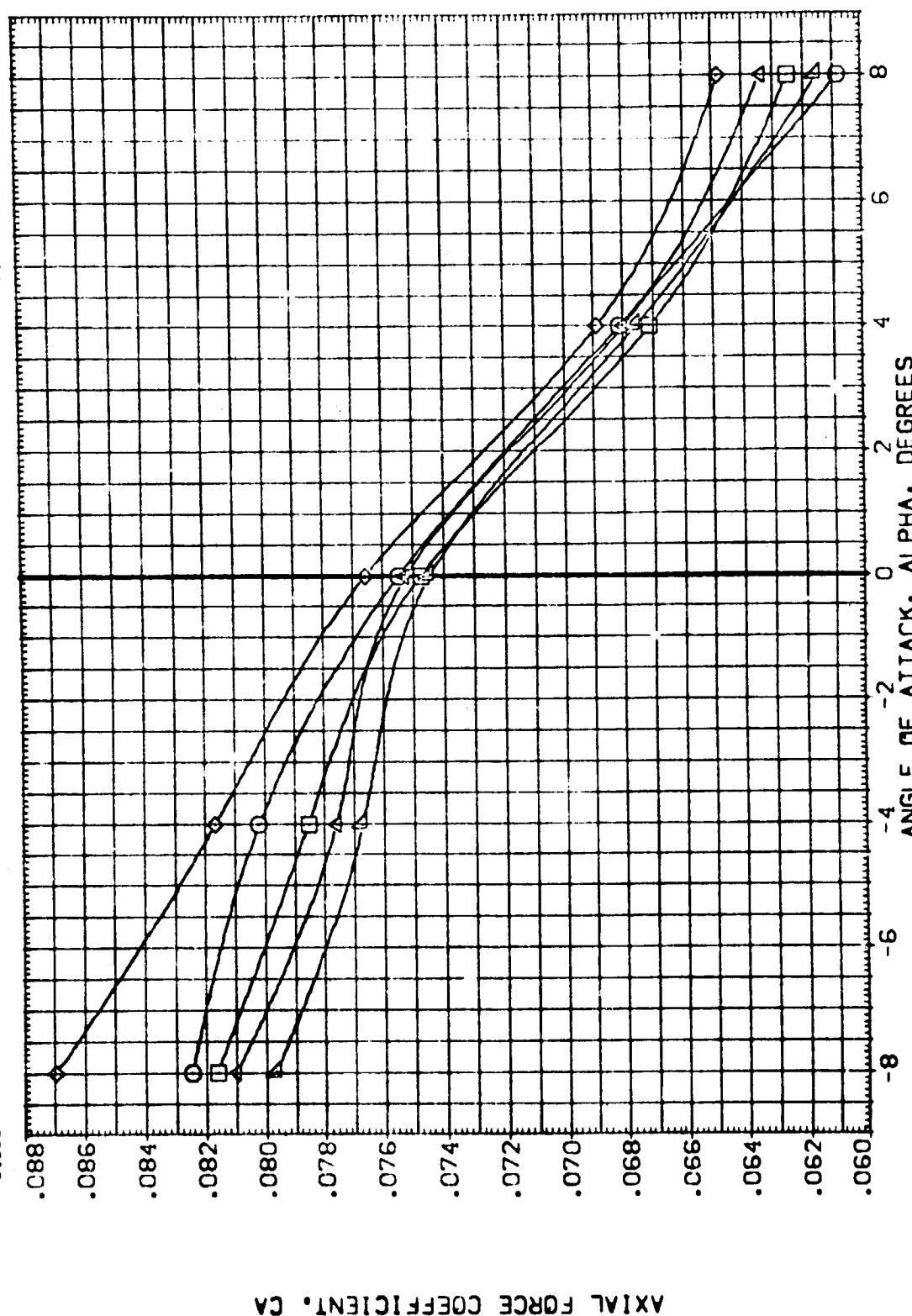


FIG. 39 LV (01 T12 S12 N25), MACH = .90 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1044)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 .000
 .000
 .000
 .000
 .000

RUDDER
 .000
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 .900
 .000
 .000
 .000
 .000

ELEVON
 .000
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

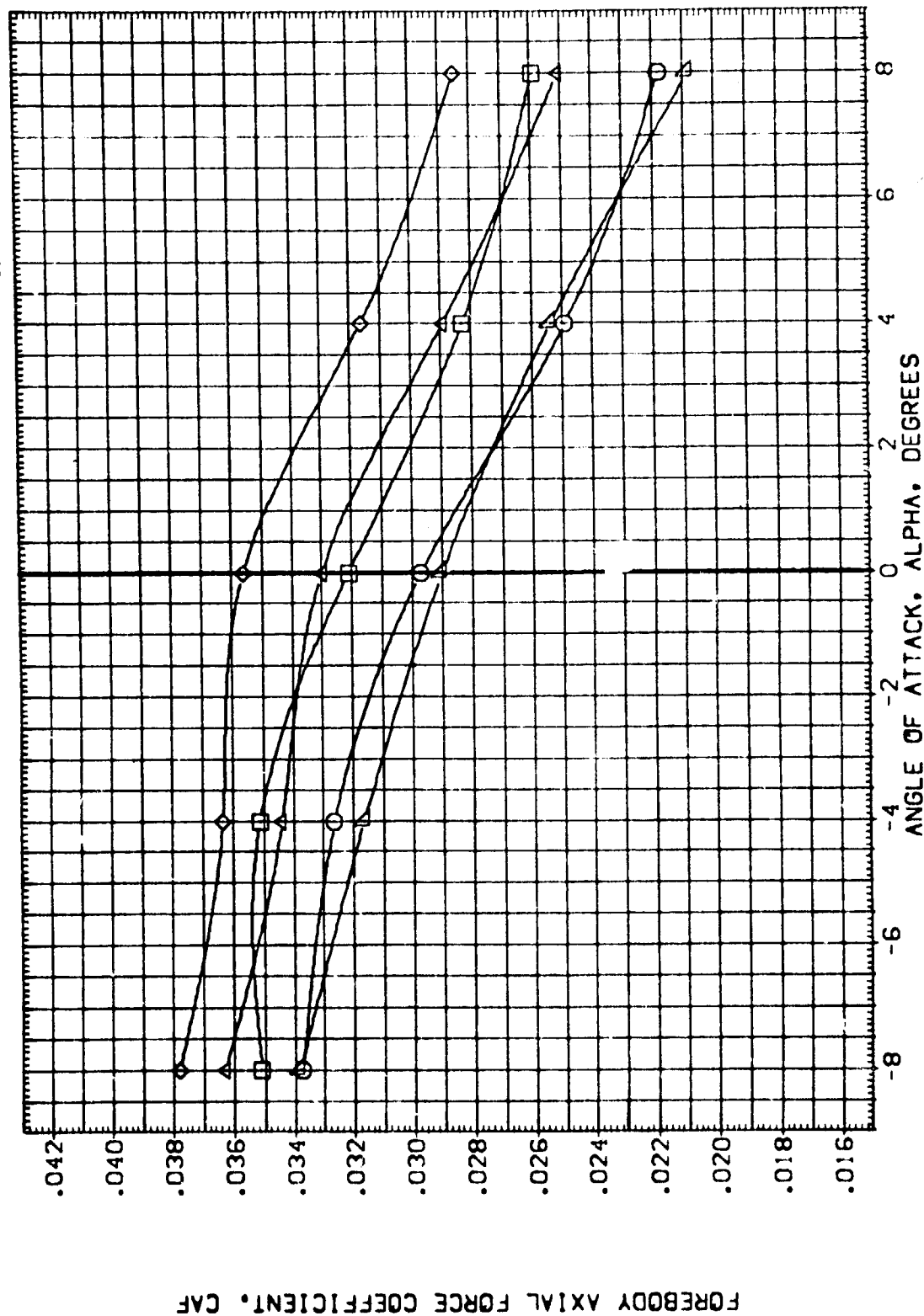


FIG. 39 LV (01 T12 S12 N25) , MACH = .90 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1044)

SYMBOL
O
□
◇
△
▽

BETA
-8.000
-4.000
.000
4.000
8.000

PARAMETRIC VALUES
MACH .900
ELEVON .000
SPDRK .000

.000
.000

REFERENCE INFORMATION
SREF 2.4210
LREF 38.7093
BREF 38.7093
XMRP .0000
YMRP .0000
ZMRP 9.9900
SCALE .0300

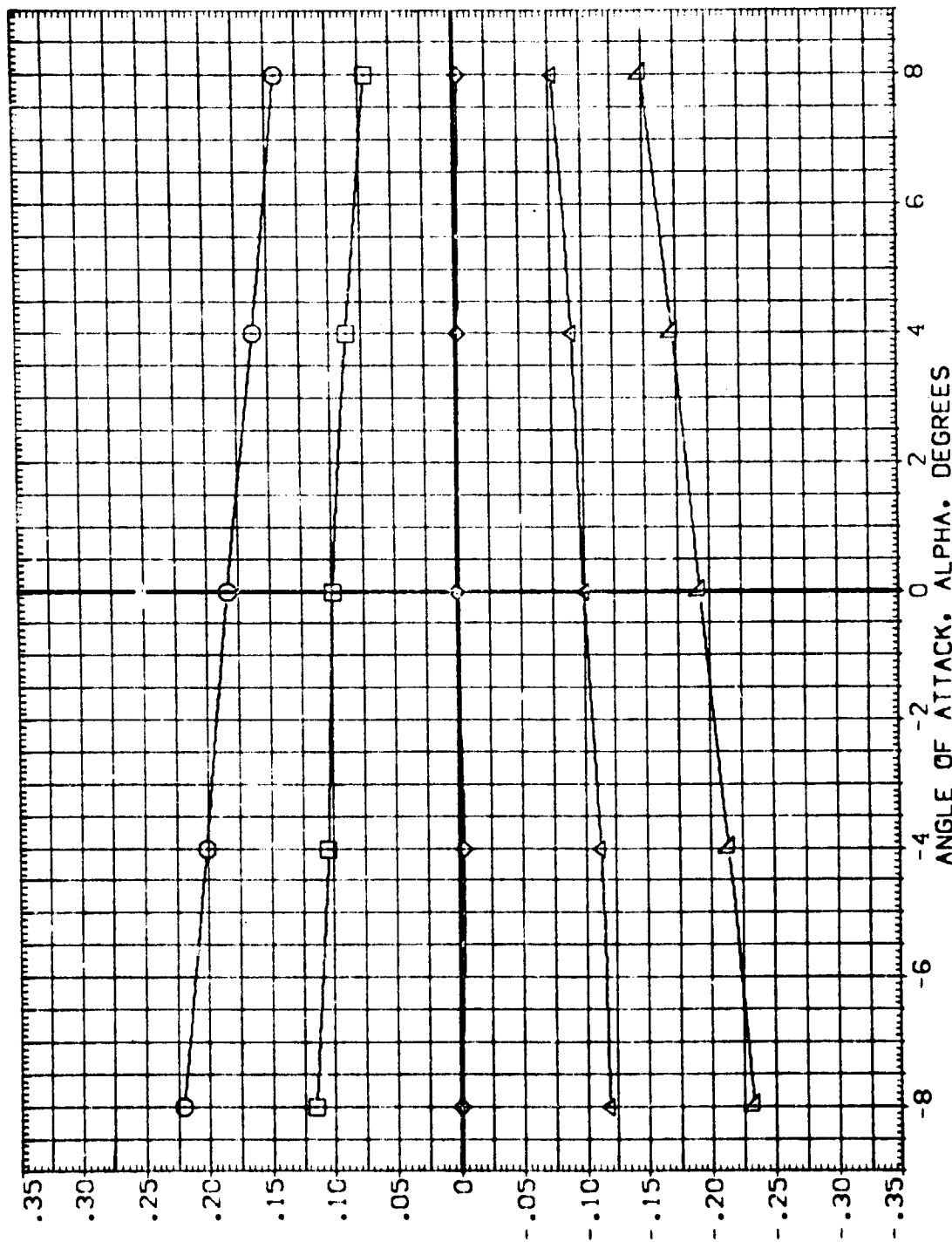


FIG. 39 LV (01 T12 S12 N25) • MACH = .90 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (181044)

SYMBOL
 ○
 ◇
 △
 □
 ○
 △
 ◇

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER
 .000
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 SPOBRK
 .000
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9500
 SCALE .0300

SG.FT.
 IN.
 IN.
 IN.
 IN.
 IN.

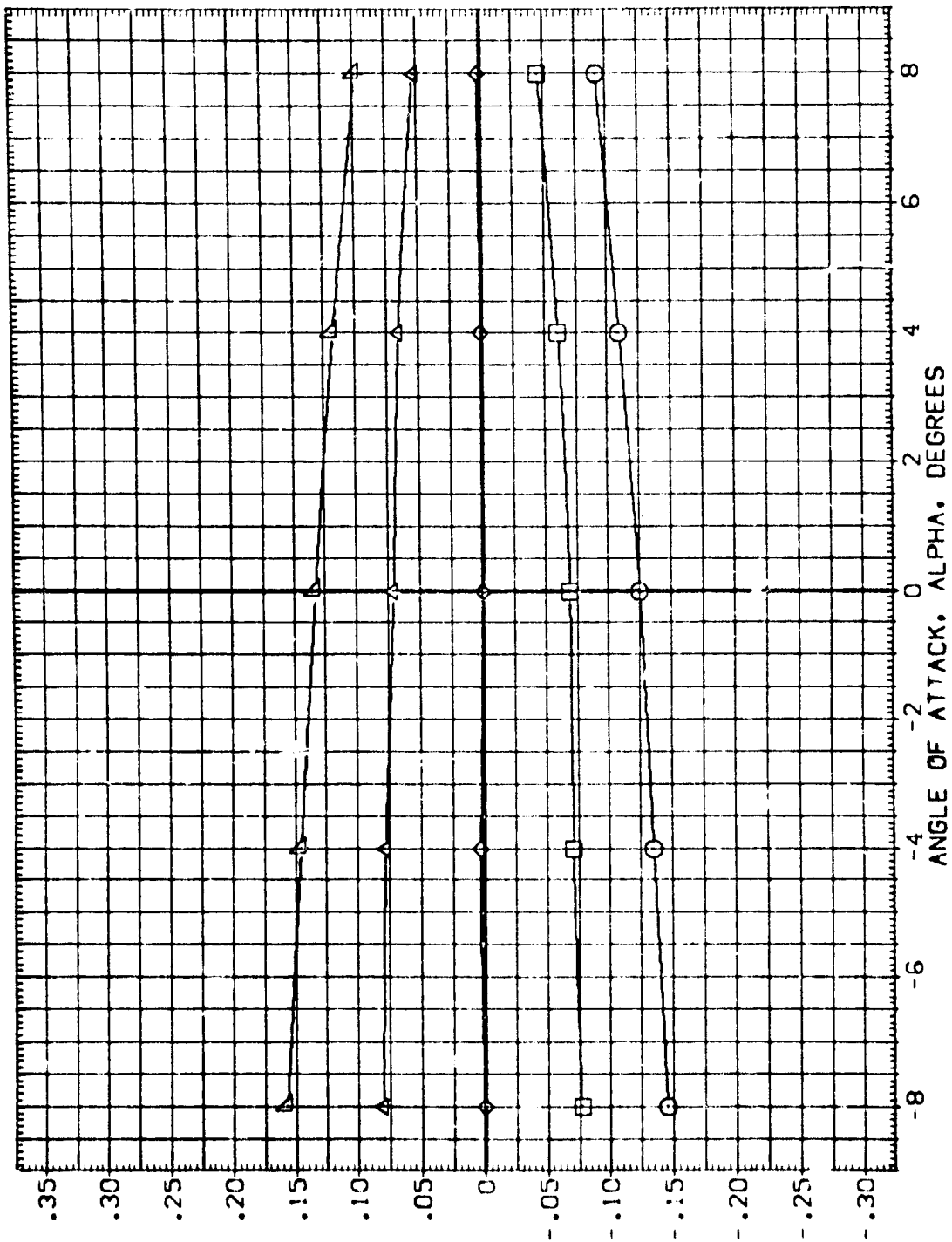


FIG. 39 LV (01 T12 S12 N25) , MACH = .90 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (181044)

SYMBOL
 ○
 □
 ◇
 △
 /

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 .900
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 .000
 .000
 .000
 .000
 .000

SPDRK
 .000
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP .0000
 SCALE 9.0300

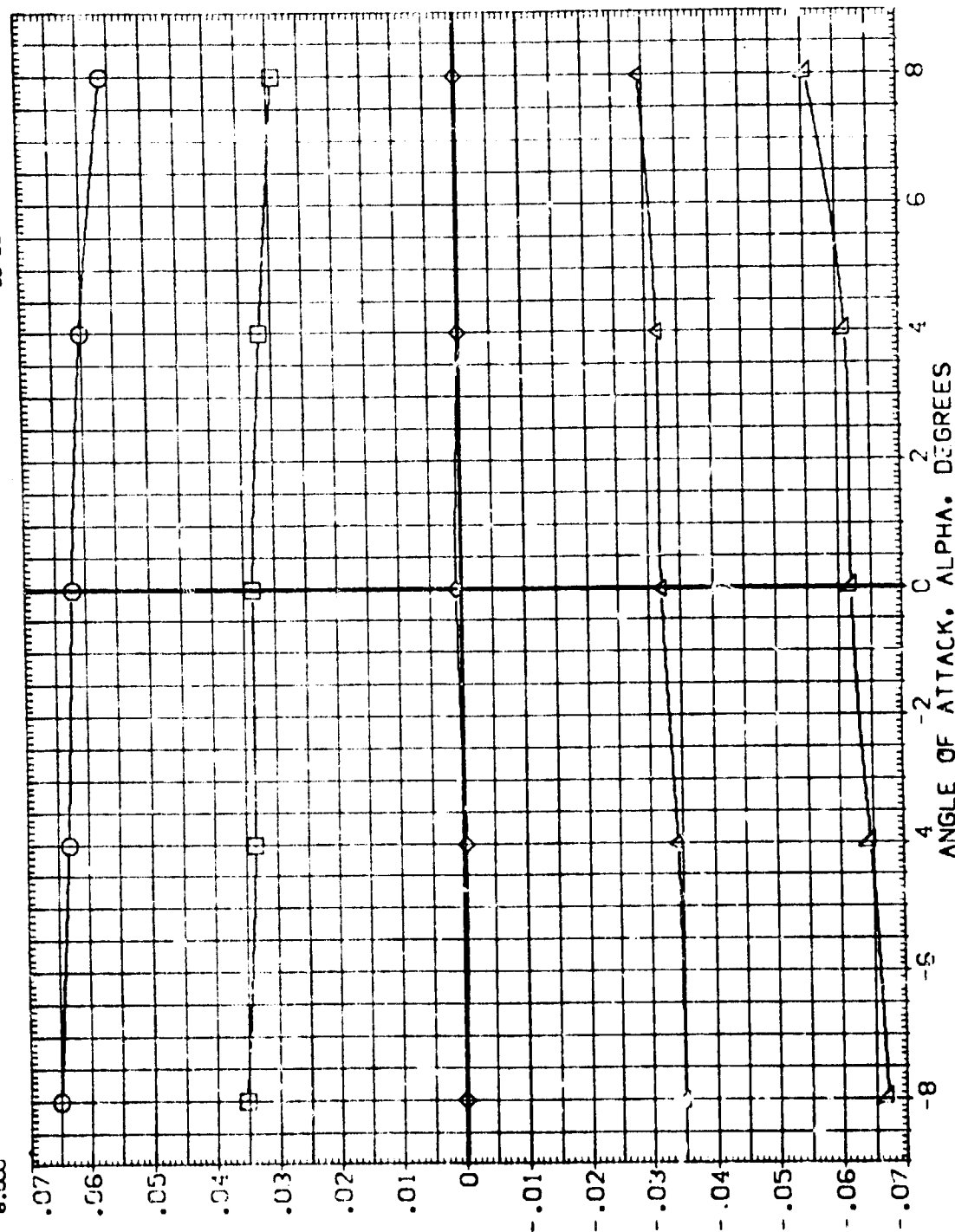


FIG. 39 LV (01 T12 S12 N25) • MACH = .90 (ORBITER BALANCE)

AMES 11-716 1A14A C1+T12+S12 N25 (ORBITER) (1B1045)

SYMBOL	BETA	MACH	PARAMETRIC VALUES	REFERENCE INFORMATION	SC. FT.
○	-8.000		.919 ELEVON	SREF	2.4210
○	-4.000		.000 SPOBRK	LREF	38.7090
○	.000			BREF	38.7090
○	4.000			XMRP	.0000
○	8.000			YMRP	.0000
○				ZMRP	9.9900
○				SCALE	.0300

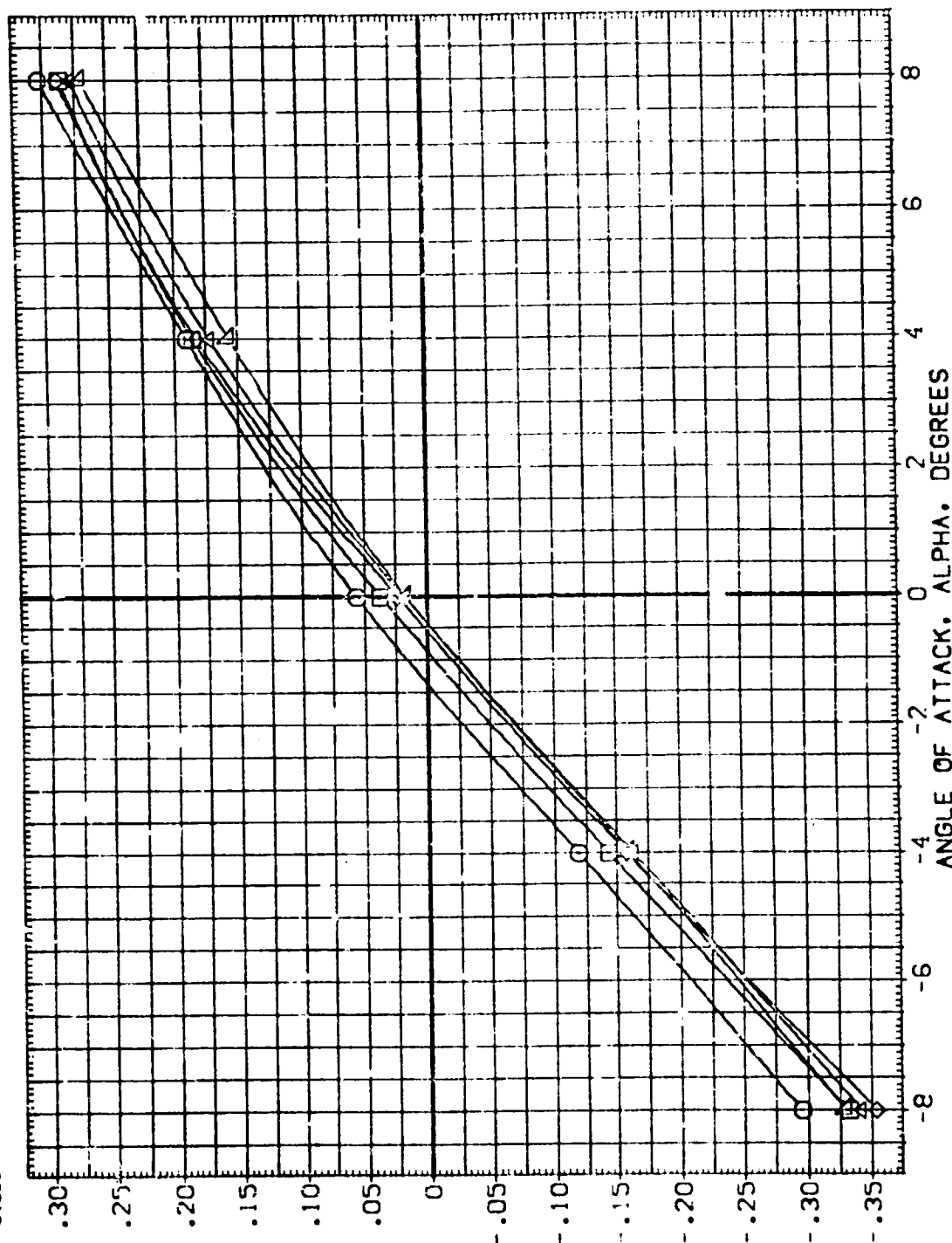


FIG. 40 LV (01 T12 S12 N25), MACH = .95 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1045)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION		
	BETA	MACH	MODE	SREF	LREF	SQ.FT.
◇	-8.000	.949	ELEVON	38.7090	38.7090	N.
◇	-4.000	.000	SPOBRK	38.7090	38.7090	N.
◇	.000	.000		0.000	0.000	N.
◇	4.000	.000		0.000	0.000	N.
◇	8.000	.000		9.9800	9.9800	N.
				SCALE		

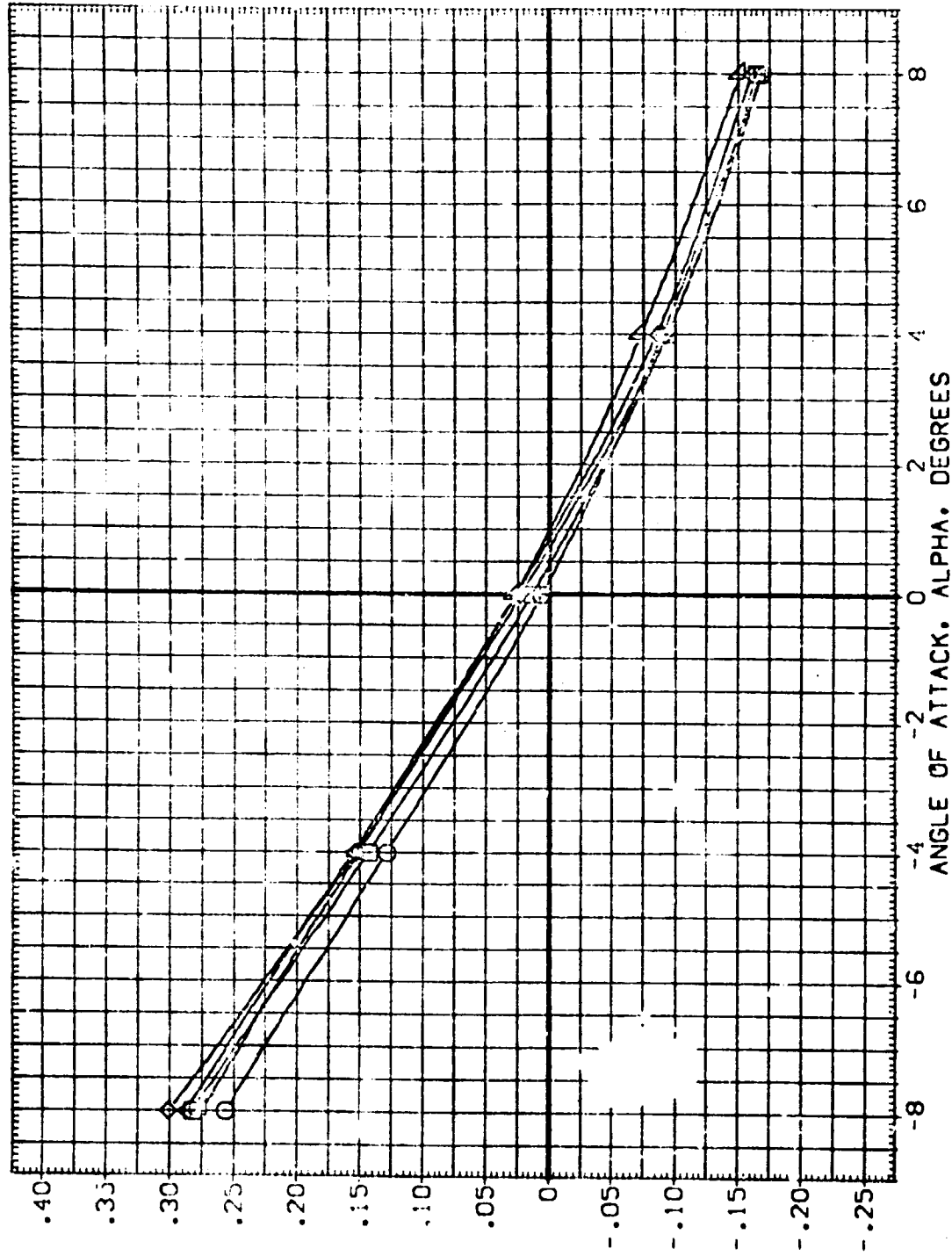


FIG. 40 LV (01 T12 S12 N25) • MACH = .95 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1045)

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7080 IN.
 BREF 38.7080 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000
 MACH .949
 ELEVON .000
 RUDDER .000
 SPOBRK .000

SYMBOL
 O
 □
 △
 ◇
 ▲

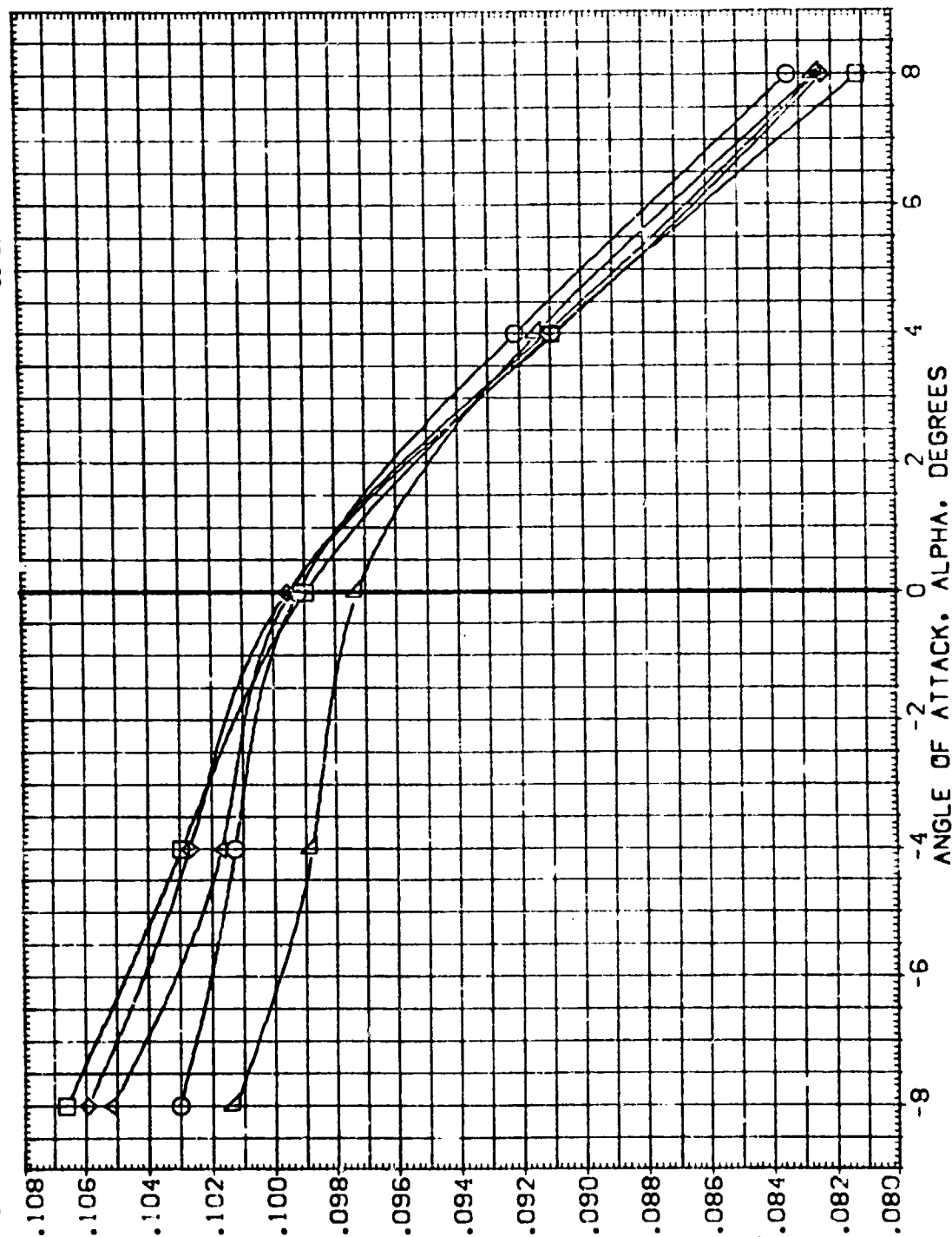


FIG. 40 LV (01 T12 S12 N25) • MACH = .95 (ORBITER BALANCE)

AMES 11-716 1A14A 01+112+S12 N25 (ORBITER) (181045)

SYMBOL
 ▽
 ○
 □
 ◇
 △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 .949 ELEVON
 .000 SPOBRK

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7530
 BREF 38.7530
 XMRP .0000
 YMRP .0000
 ZMRP 9.8900
 SCALE .0300

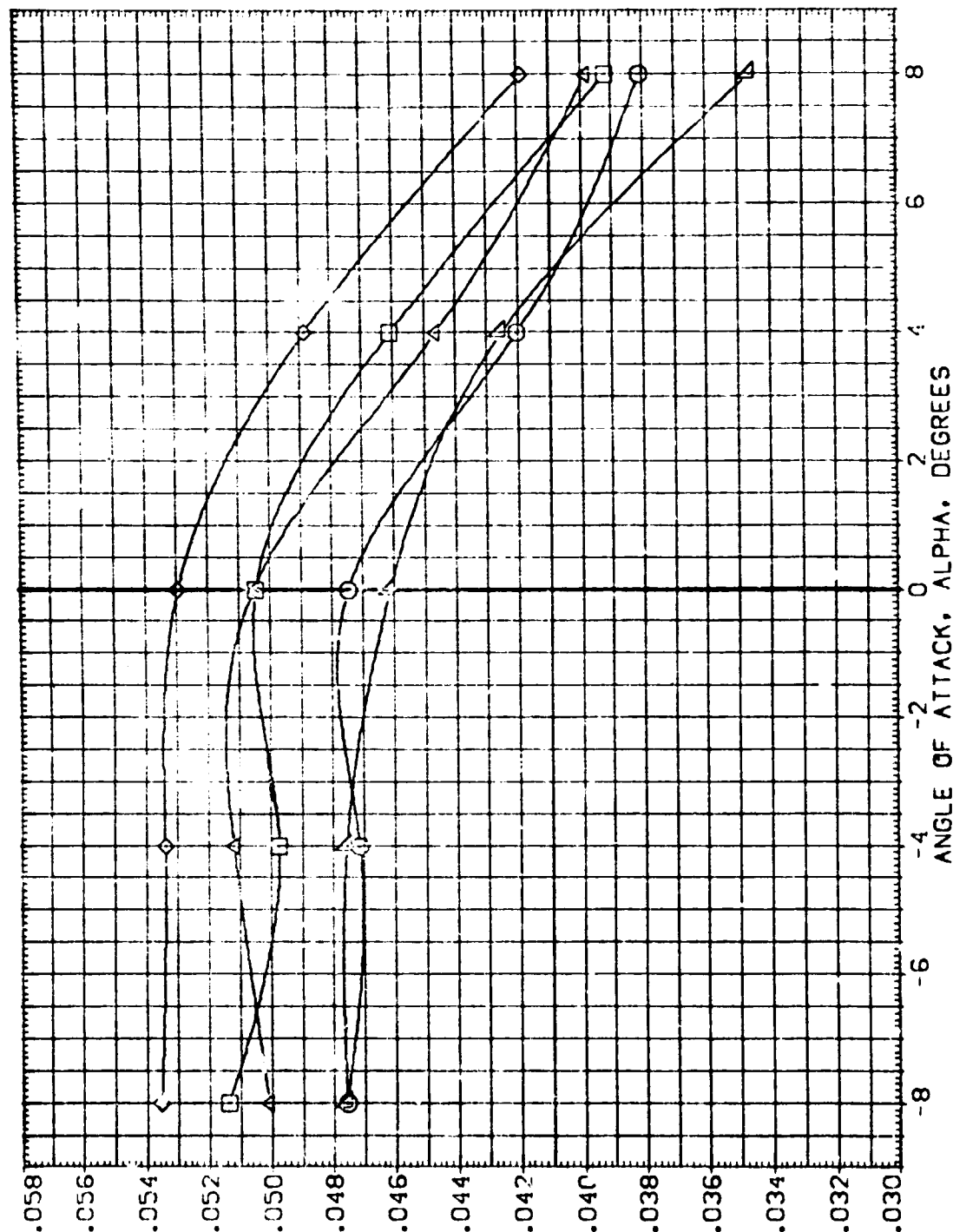


FIG. 40 LV (01 112 S12 N25) , MACH = .95

(ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1045)

SYMBOL
 ○
 □
 ◇
 △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MAC=1
 RUDDER
 .949
 .000
 ELEVON
 .000
 SPDBK
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

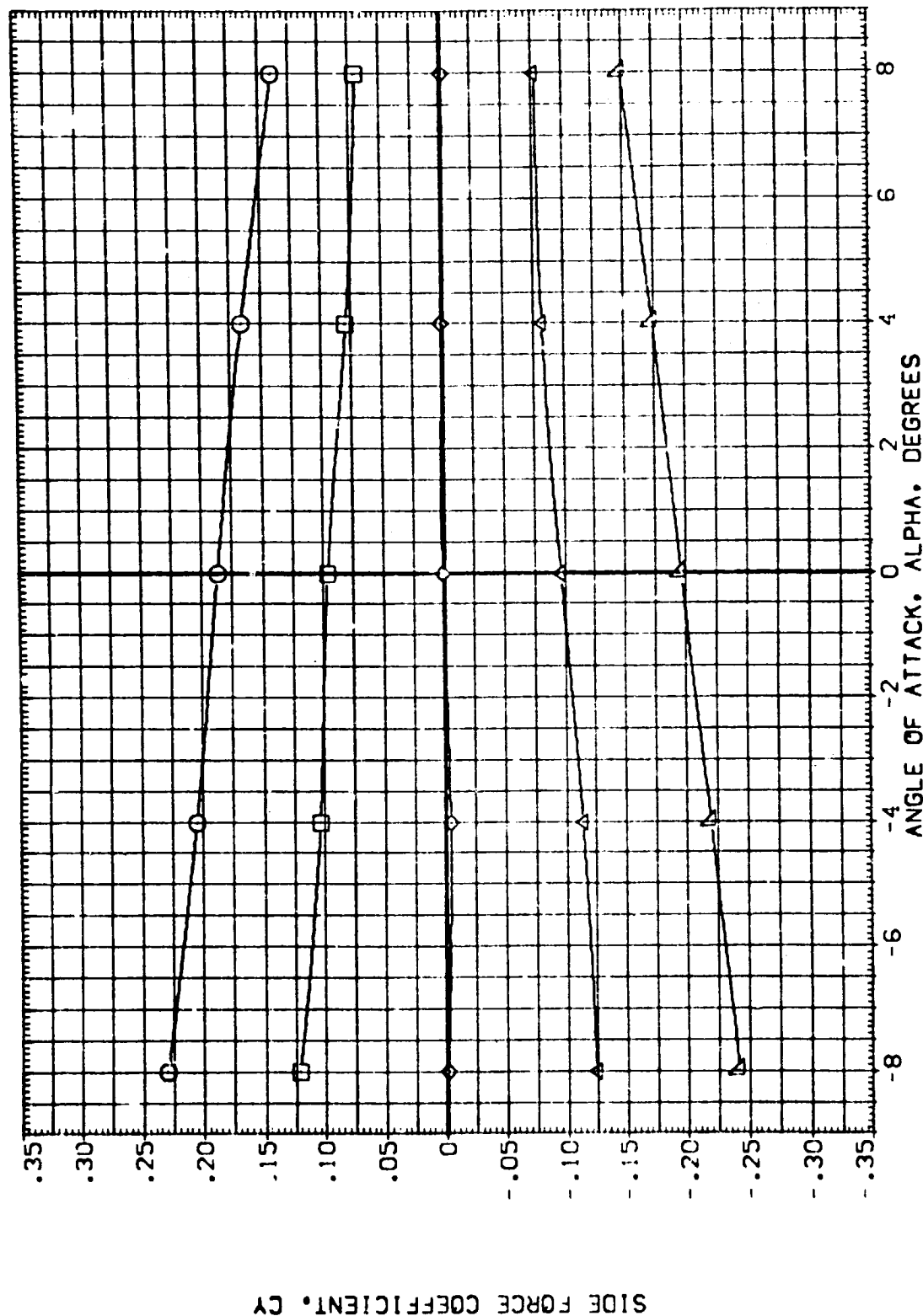


FIG. 40 LV (01 T12 S12 N25) , MACH = .95 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1045)

SYMBOL	BETA	MACH	PARA	METRIC VALUES	REFERENCE INFORMATION
▽	-8.000		.949	ELEVON	SREF 2.4210
◇	-4.000		.000	SPORON	LREF 38.7090
○	.000		.000		BREF 38.7090
△	4.000				YREF .0000
□	8.000				YREF .0000
					ZREF 9.9900
					SCALE .0300
					SO.FT. 22.2222

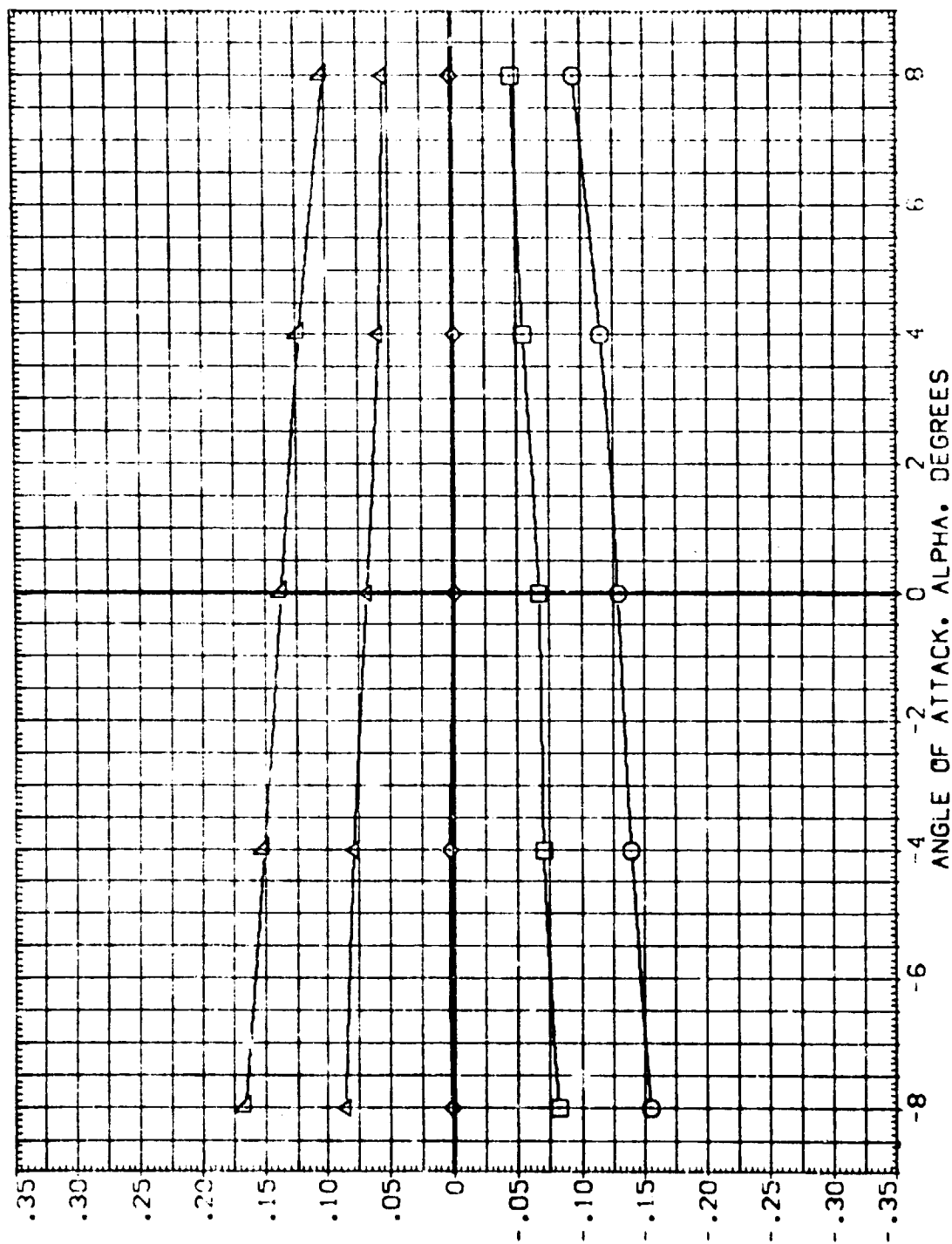


FIG. 40 LV (01 T12 S12 N25) , MACH = .95 (ORBITER BALANCE)

AMES 11-716 1A14A 01+112+S12 N25 (ORBITER) (1B1045)

SYMBOL	BETA	MACH	PARAMETRIC VALUES	REFERENCE INFORMATION
○	-8.000	.949	ELEVSN .000	SPEC 2.4210
◇	-4.000	.000	SPDRM .000	LR.F 38.7000
△	.000	.000		BR.F 38.7000
▽	4.000	.000		XR.F .0000
	8.000	.000		YMRP .0000
				ZMRP 9.9900
				SCALE .0300

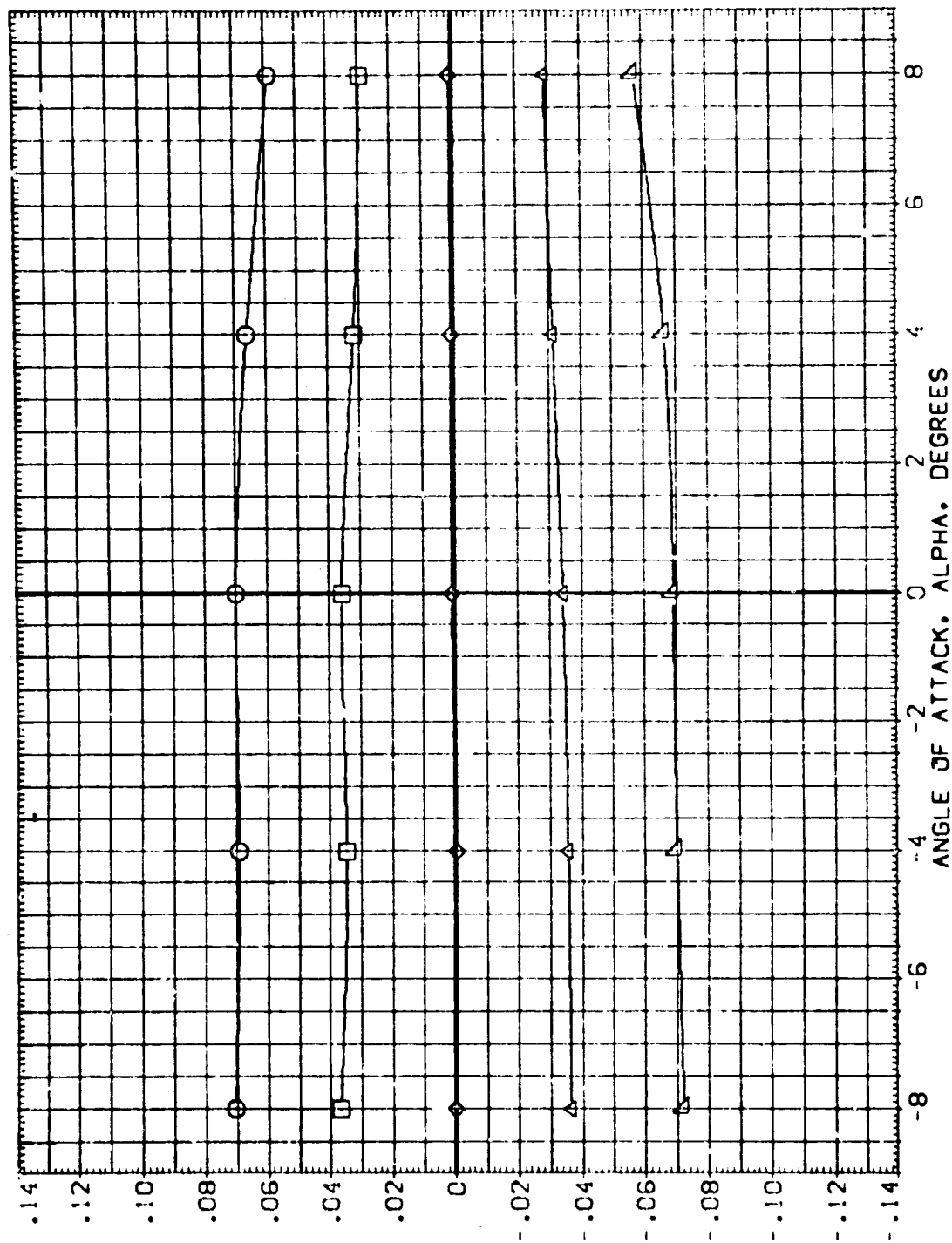


FIG. 40 LV (01 112 S12 N25) , MACH = .95 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1046)

SYMBOL	PARAMETRIC VALUES		REFERENCE INFORMATION	
	BETA	MACH	SREF	SO.FT.
01	-8.000	.975	38.7090	1.0000
10	-4.000	.000	38.7090	1.0000
11	.000	.000	38.7090	1.0000
12	4.000	.000	38.7090	1.0000
25	8.000	.000	38.7090	1.0000

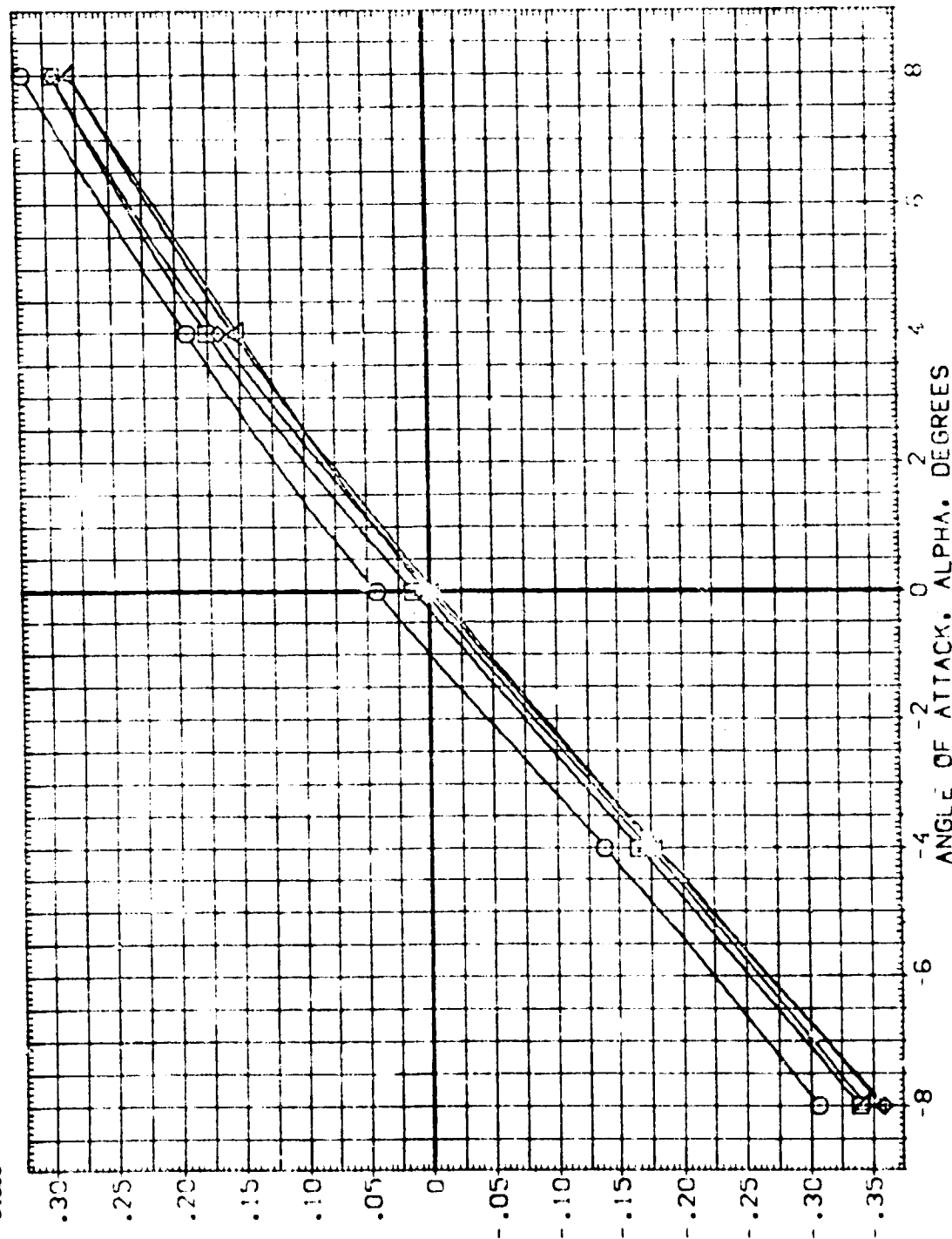


FIG. 41 LV (01 T12 S12 N25) • MACH = .975 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1046)

SYMBOL
 ∇ Δ \square \circ \diamond

PARAMETRIC VALUES	
BETA	MACH
-8.000	.975
-4.000	.000
.000	.000
4.000	.000
8.000	.000

REFERENCE INFORMATION

SREF	2.4210	50. FT.
LREF	38.7090	IN.
BREF	38.7090	IN.
XMRP	.0000	IN.
YMRP	.0000	IN.
ZMRP	9.9900	IN.
SCALE	.0300	

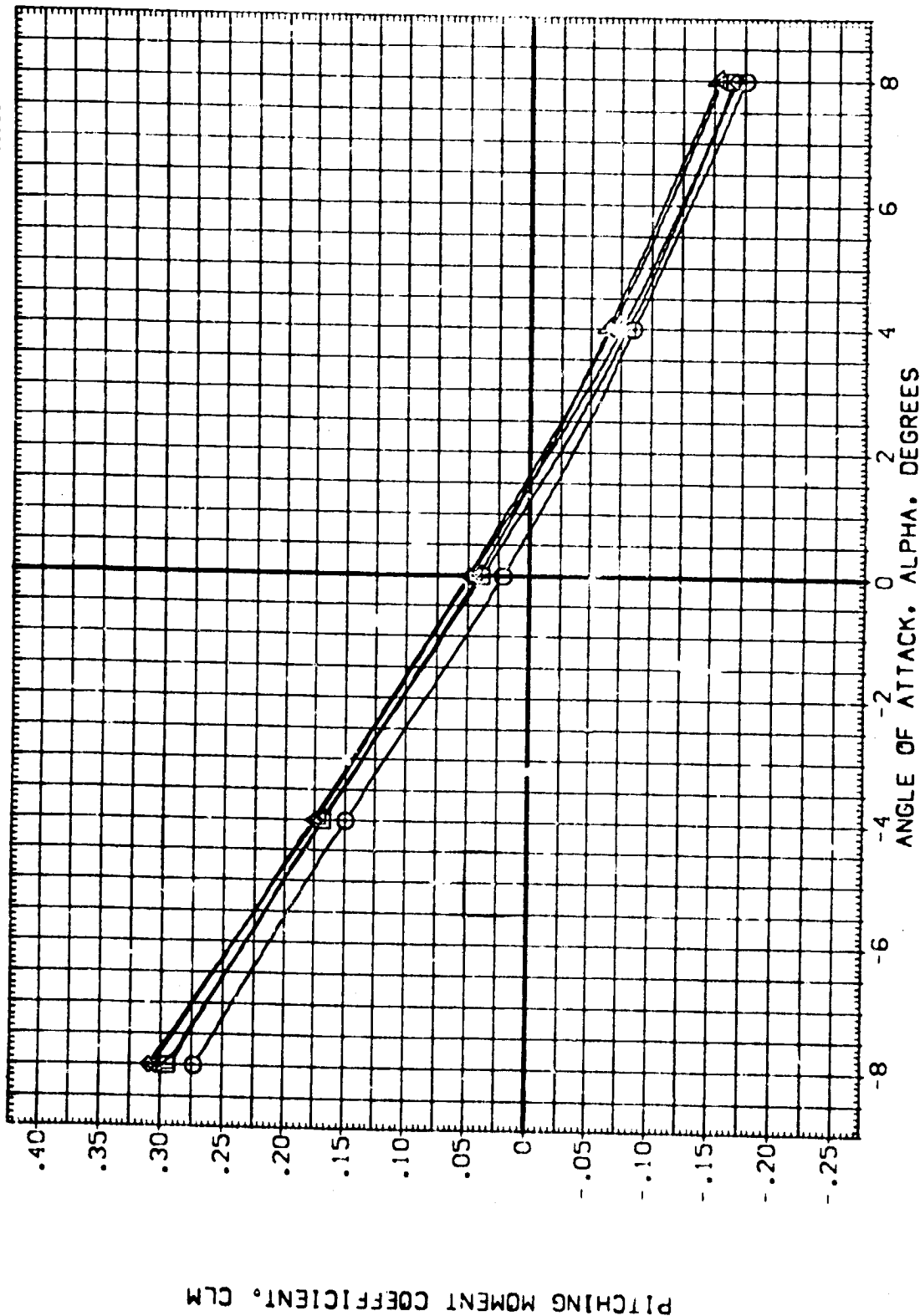


FIG. 41 LV (01 T12 S12 N25) • MACH = .975 (ORBITER BALANCE)

AMES 11-716 1A14A 01+112+S12 N25 (ORBITER) (1B1046)

SYMBOL
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 □
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BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH .975
 ELEVON .000
 RUDDER .000
 SPOILER .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7050
 BREF 38.7050
 XPRP .0000
 YPRP .0000
 ZPRP 9.9800
 SCALE .0300

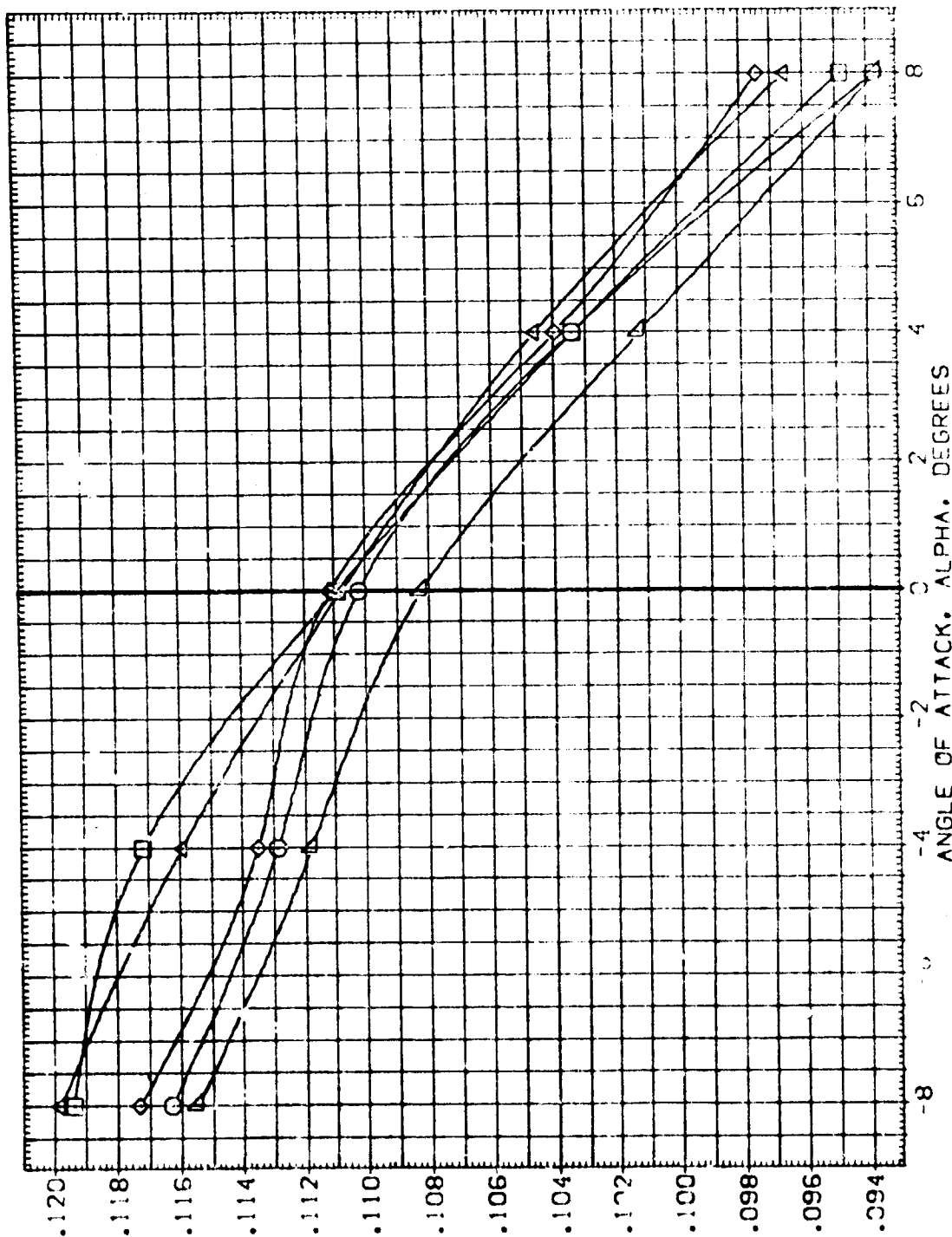


FIG. 41 LV (01 112 S12 N25) , MACH = .975 (ORBITER BALANCE)

AMES 11-716 1A14A 01+112+S12 N25 (ORBITER) (181046)

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

PARAMETRIC VALUES
 BETA
 -8.000
 -4.000
 .000
 4.000
 8.000
 MACH
 .975
 .000
 .000
 .000
 .000
 ELEVON
 SPOBRK

SYMBOL
 ○
 ◇
 △
 ▽
 ▲

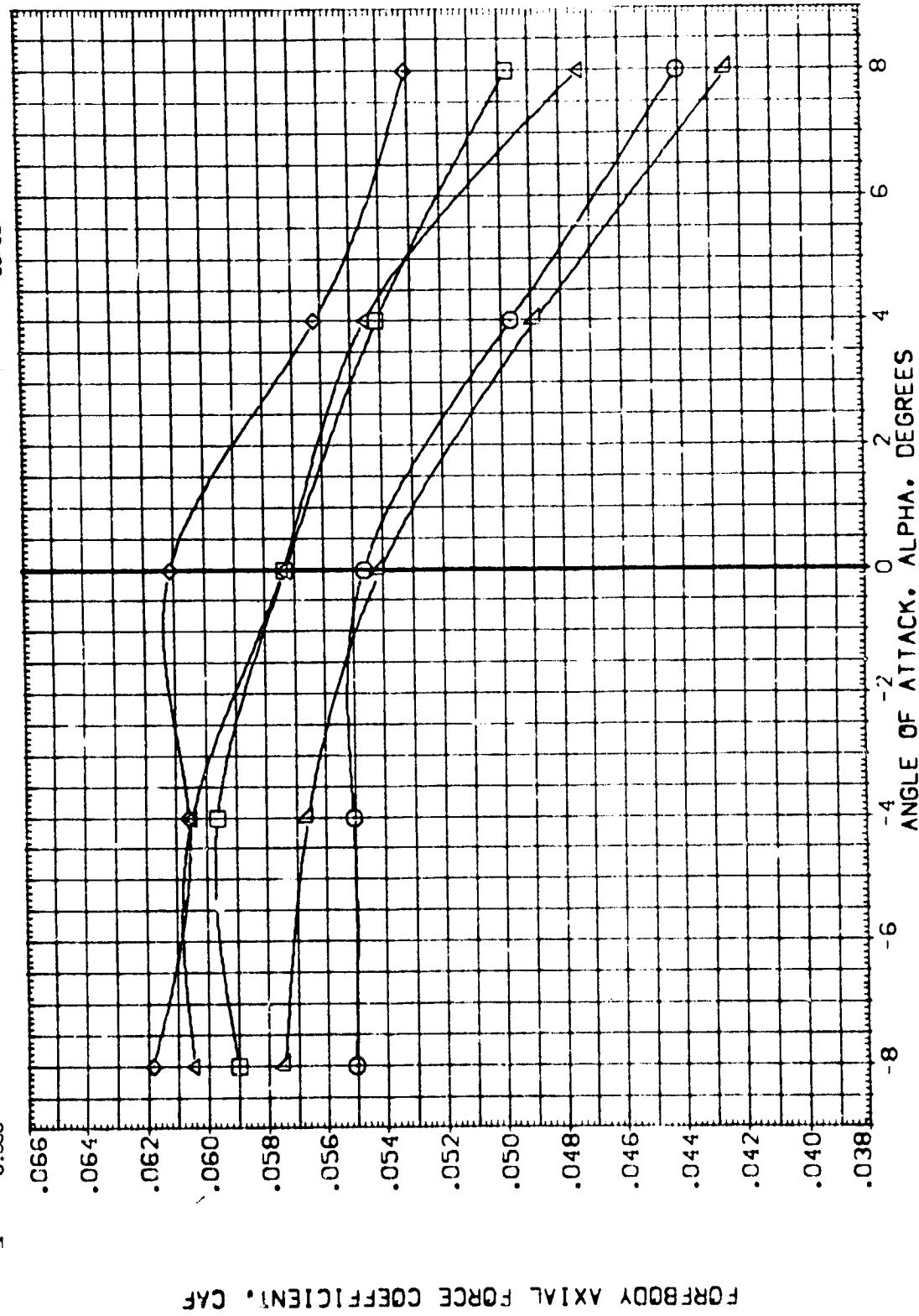


FIG. 41 LV (01 112 S12 N25) • MACH = .975 (ORBITER BALANCE)

SYMBOL
 ○
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 ◆

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 .975
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 SPOBRK

REFERENCE
 SREF
 LREF
 BREF
 XMRP
 YMRP
 ZMRP
 SCALE

FORMATION
 SQ.FT.
 IN.
 IN.
 IN.
 IN.
 IN.

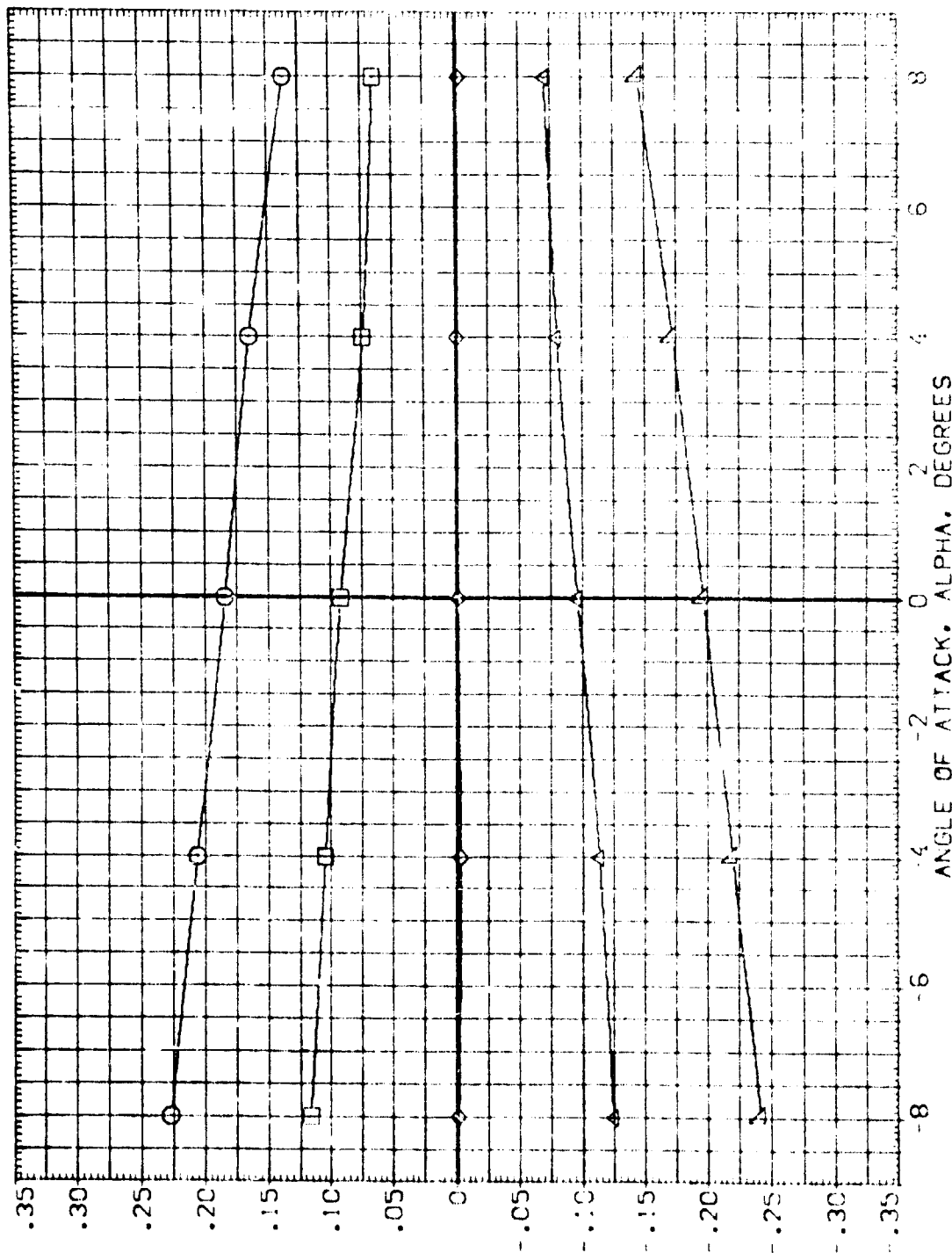


FIG. 41 LV (01 112 S12 N25) • MACH = .975 (ORBITER BALANCE)

AMES 11-716 1A14A 01+112+S12 N25 (ORBITER) (1B1046)

SYMBOL
22010

BETA
8.000
-4.000
.000
4.000
8.000

MACH
R000R
.000
S-DBRK
.000
ELEVON
.000
S-DBRK
.000

REFERENCE INFORMATION
SREF 2.4210 SO.FT.
LREF 38.7090 IN.
BREF 38.7090 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9900 IN.
SCALE .0300

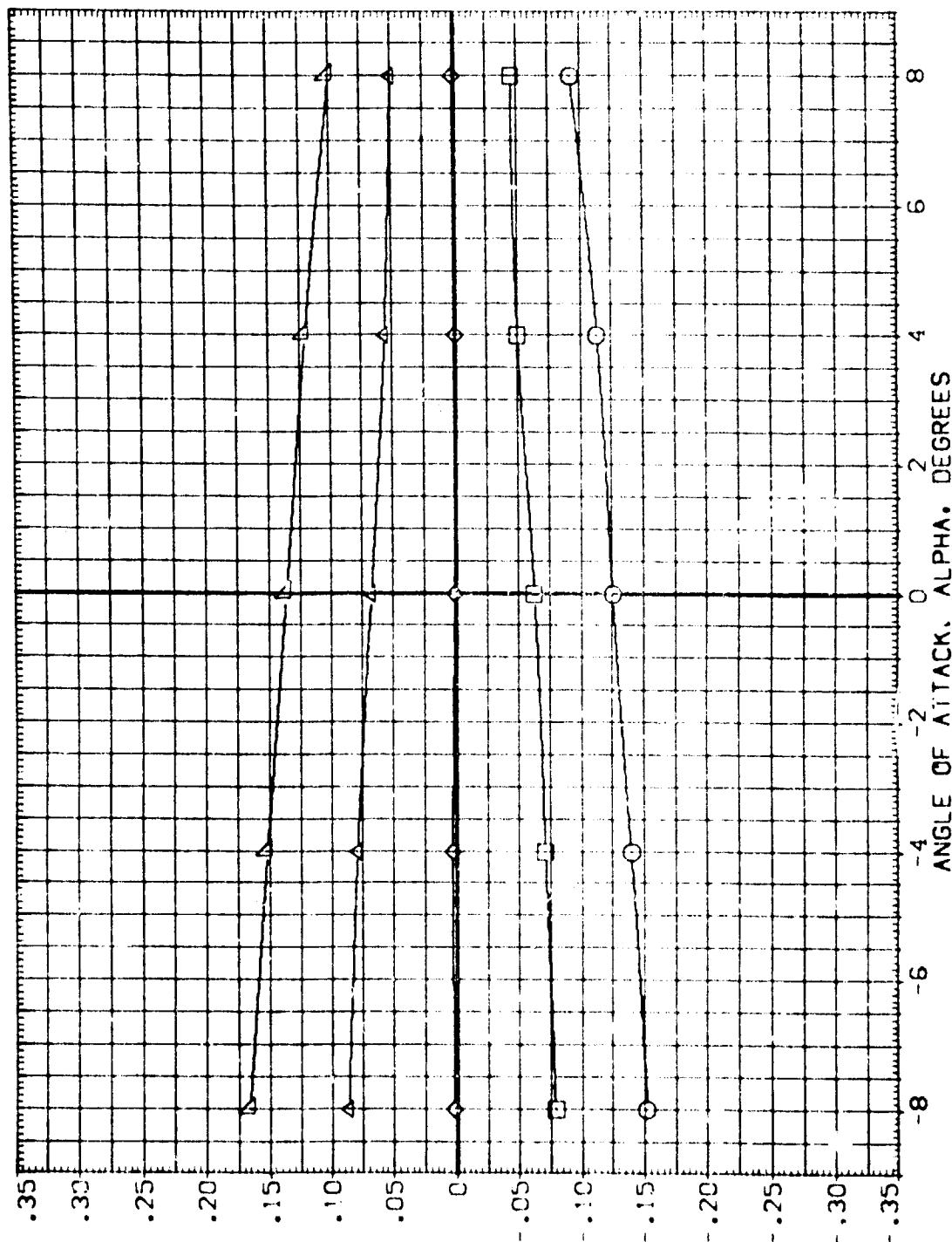


FIG. 41 LV (01 112 S12 N25) • MACH = .975 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (181046)

SYMBOL	BETA	PARAMETRIC VALUES		REFERENCE INFORMATION	
		MACH	ELEVON	SREF	SQ.FT.
▽	-8.000	.975	.000	LREF	38.7090
◇	-4.000	.000	.000	BREF	38.7090
◇	.000	.000	.000	XMRP	.0000
◇	4.000	.000	.000	YMRP	.0000
▽	8.000	.000	.000	ZMRP	9.9900
				SCALE	.0300

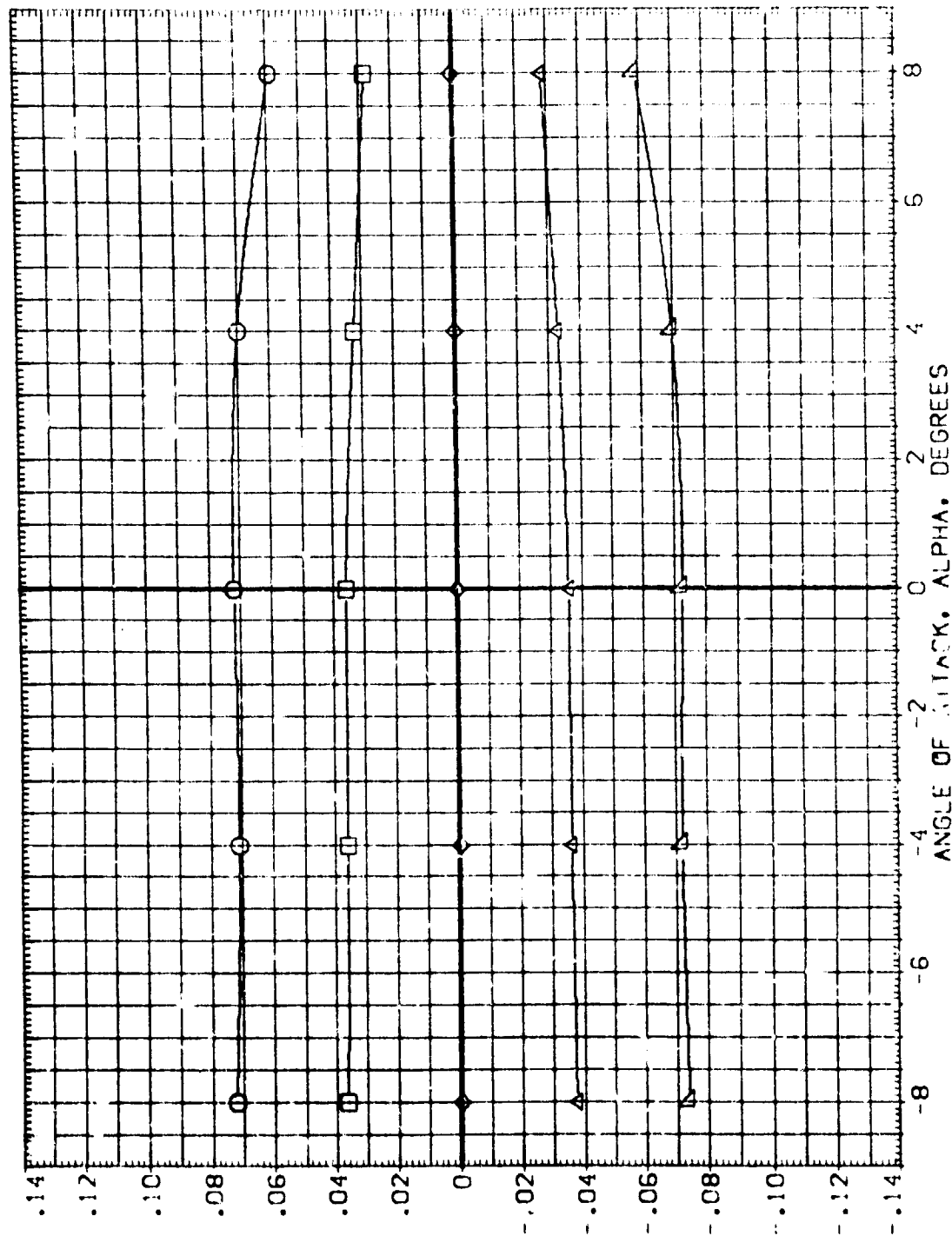


FIG. 41 LV (01 T12 S12 N25) - MACH = .975 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1047)

SYMBOL
 □
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 △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.049
 ELEVON .000
 RUDDER .000
 SPOBRK .000

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7080
 BREF 38.7050
 XMRP .0000
 YMRP .0000
 ZMRP 9.5900
 SCALE .0300

SO.FT.
 IN.
 IN.
 IN.
 IN.

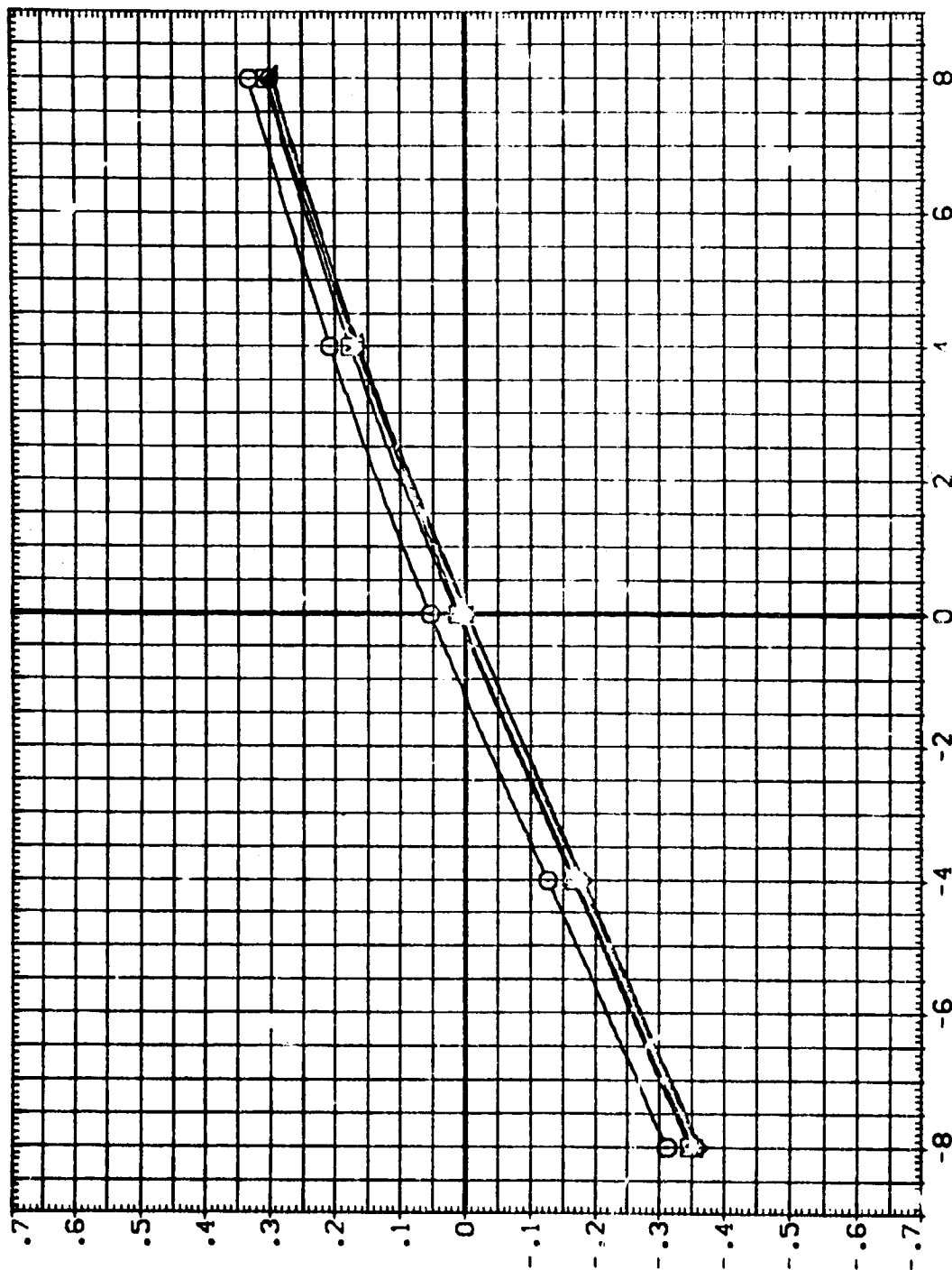


FIG. 42 LV (01 T12 S12 N25) , MACH = 1.05 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1047)

SYMBOL
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BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.049
 RUDDER .000
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7050
 BREF 38.7050
 XREF .0000
 YREF .0000
 ZREF 9.9900
 SCALE .0300
 SQ.FT.
 IN.
 IN.
 IN.
 IN.

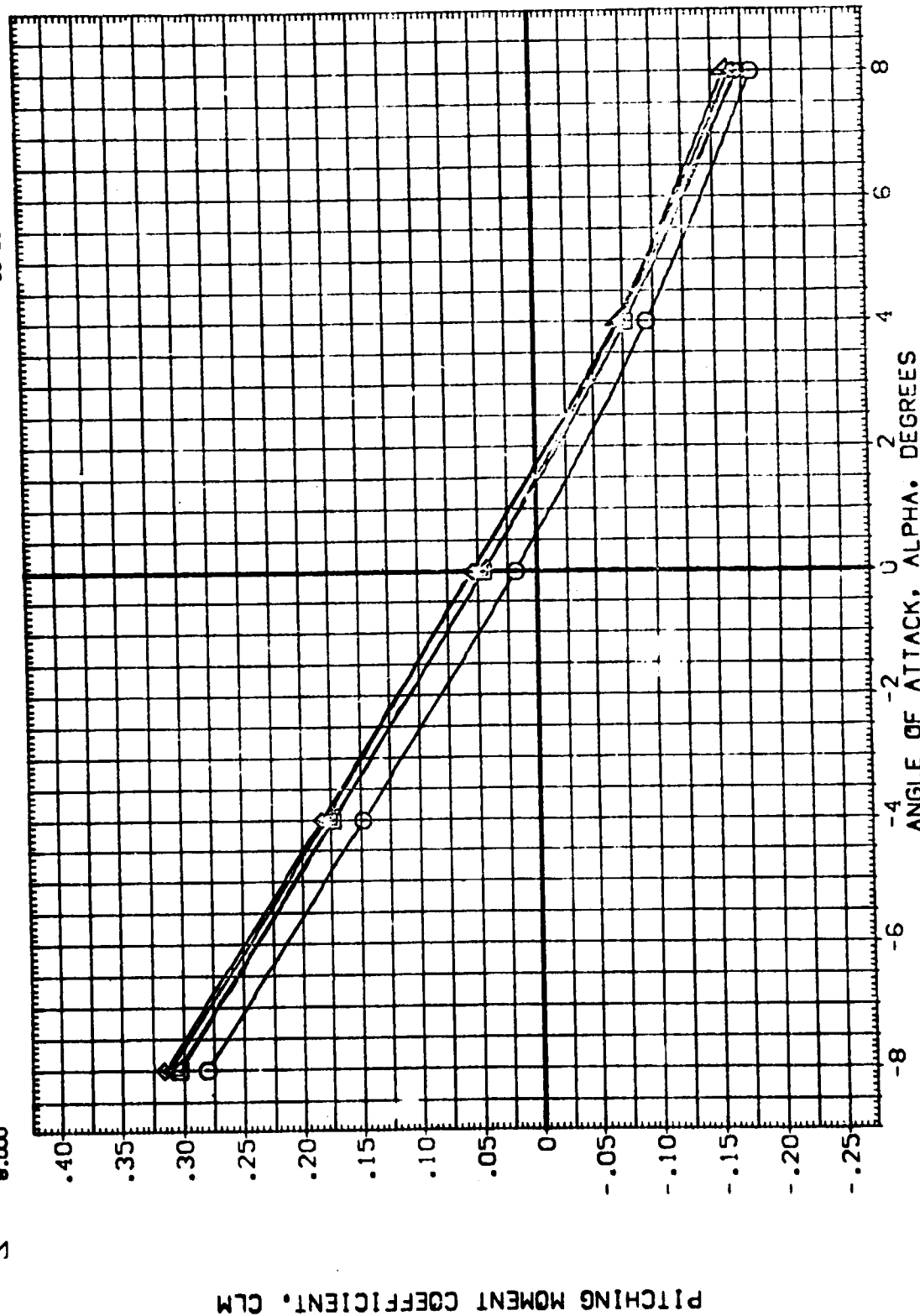


FIG. 42 LV (01 T12 S12 N25) , MACH = 1.05 (ORBITER BALANCE)

AMES 11-716 IA14A 01+T12+S12 N25 (ORBITER) (1B1047)

SYMBOL
 2
 4
 6
 8
 10
 12
 14
 16
 18
 20
 22
 24
 26
 28
 30
 32
 34
 36
 38
 40
 42
 44
 46
 48
 50

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 1.049
 .000
 .000
 .000
 .000

PARAMETRIC VALUES
 ELEVON
 SPDRM

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7030
 BREF 38.7030
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

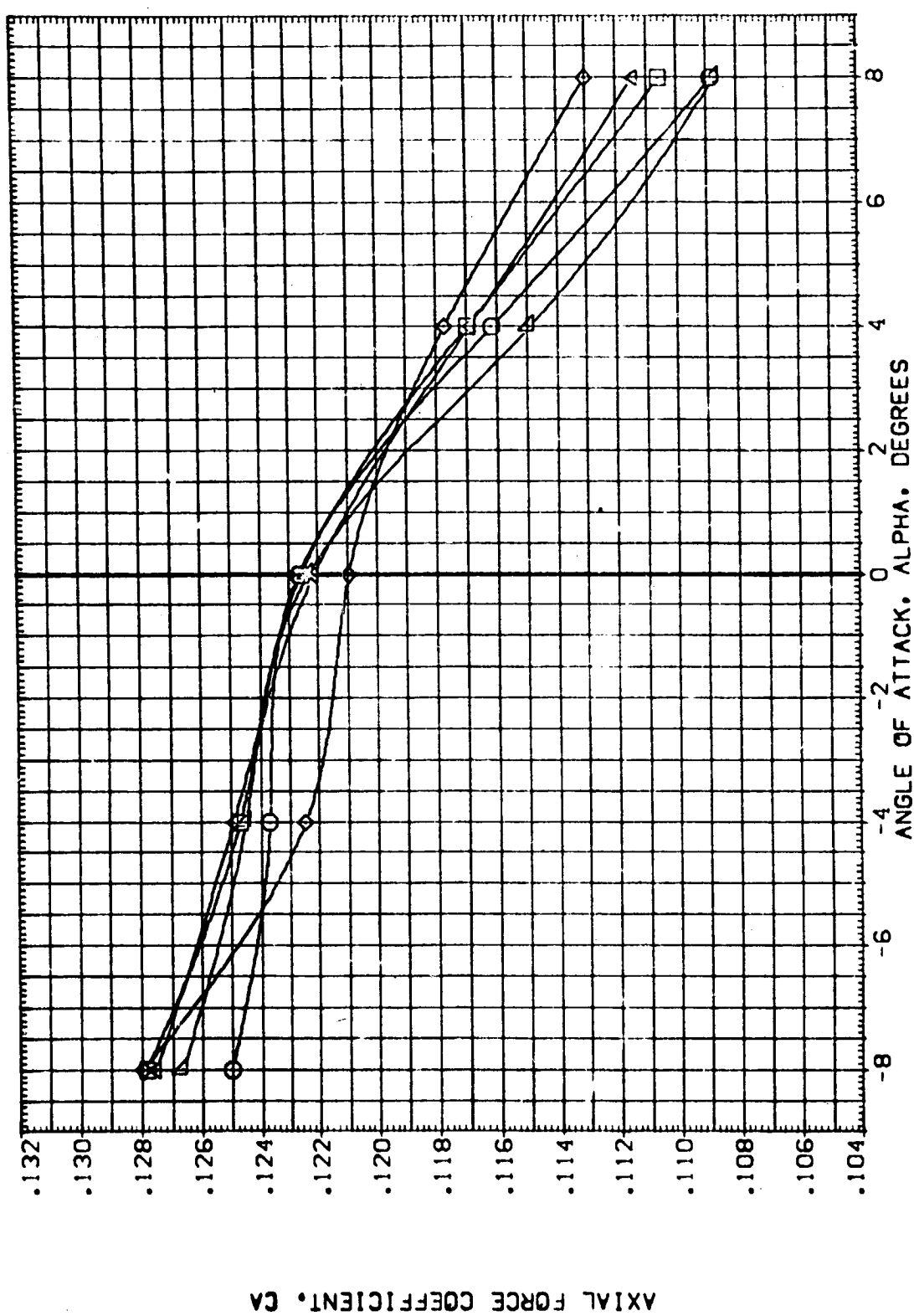


FIG. 42 LV (01 T12 S12 N25) • MACH = 1.05 (ORBITER BALANCE)

SYMBOL
 ○
 □
 ◇
 △
 ▼

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 1.049

PARAMETRIC VALUES
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7052 IN.
 BREF 38.7052 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

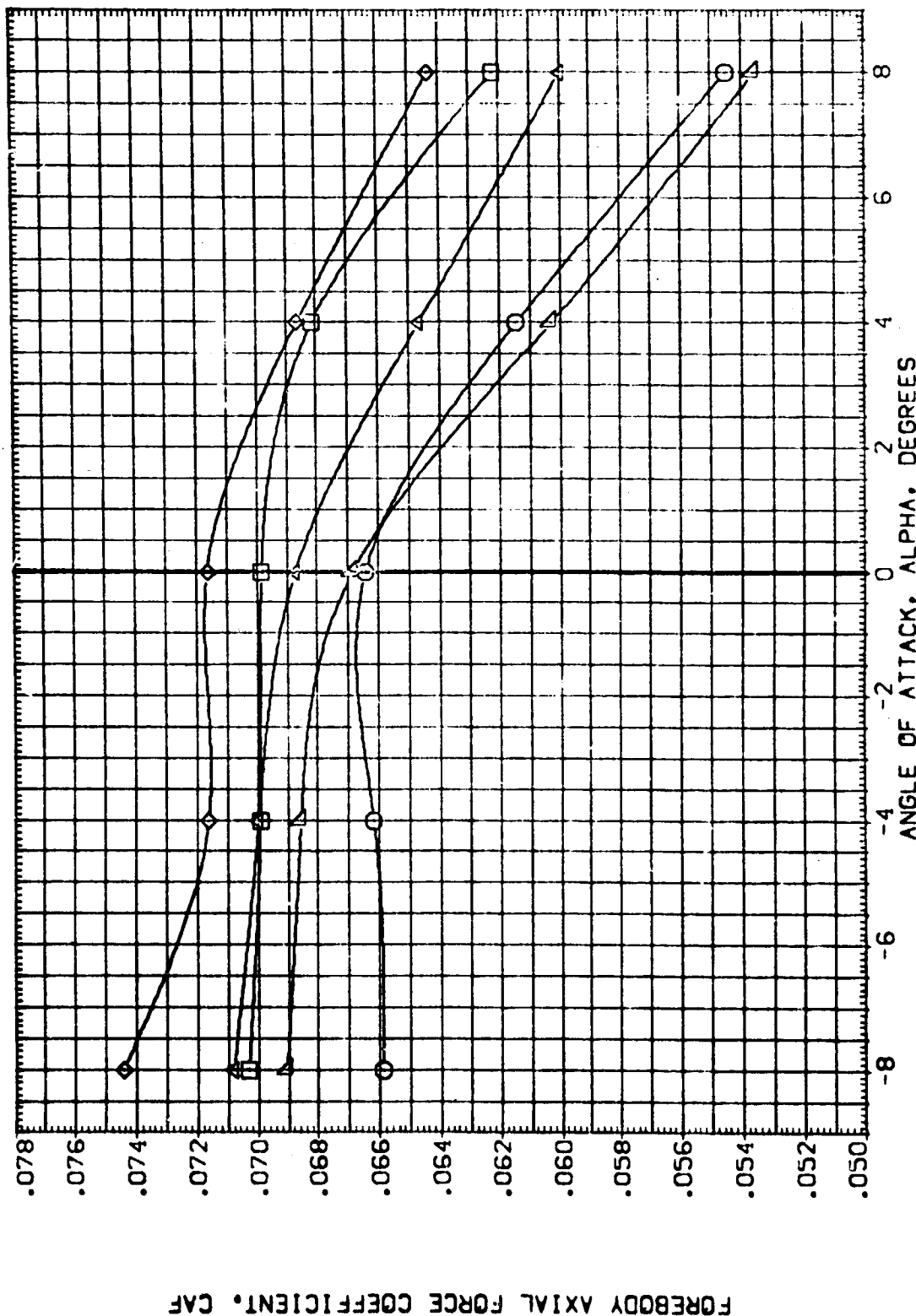


FIG. 42 LV (01 T12 S12 N25) , MACH = 1.05 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1047)

REFERENCE INFORMATION
 SREF 2.4210 SO.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000
 MACH 1.049
 ELEVON .000
 SPOBRK .000

SYMBOL
 O
 □
 ◇
 △

PARAMETRIC VALUES
 BETA -8.000
 MACH 1.049
 ELEVON .000
 SPOBRK .000

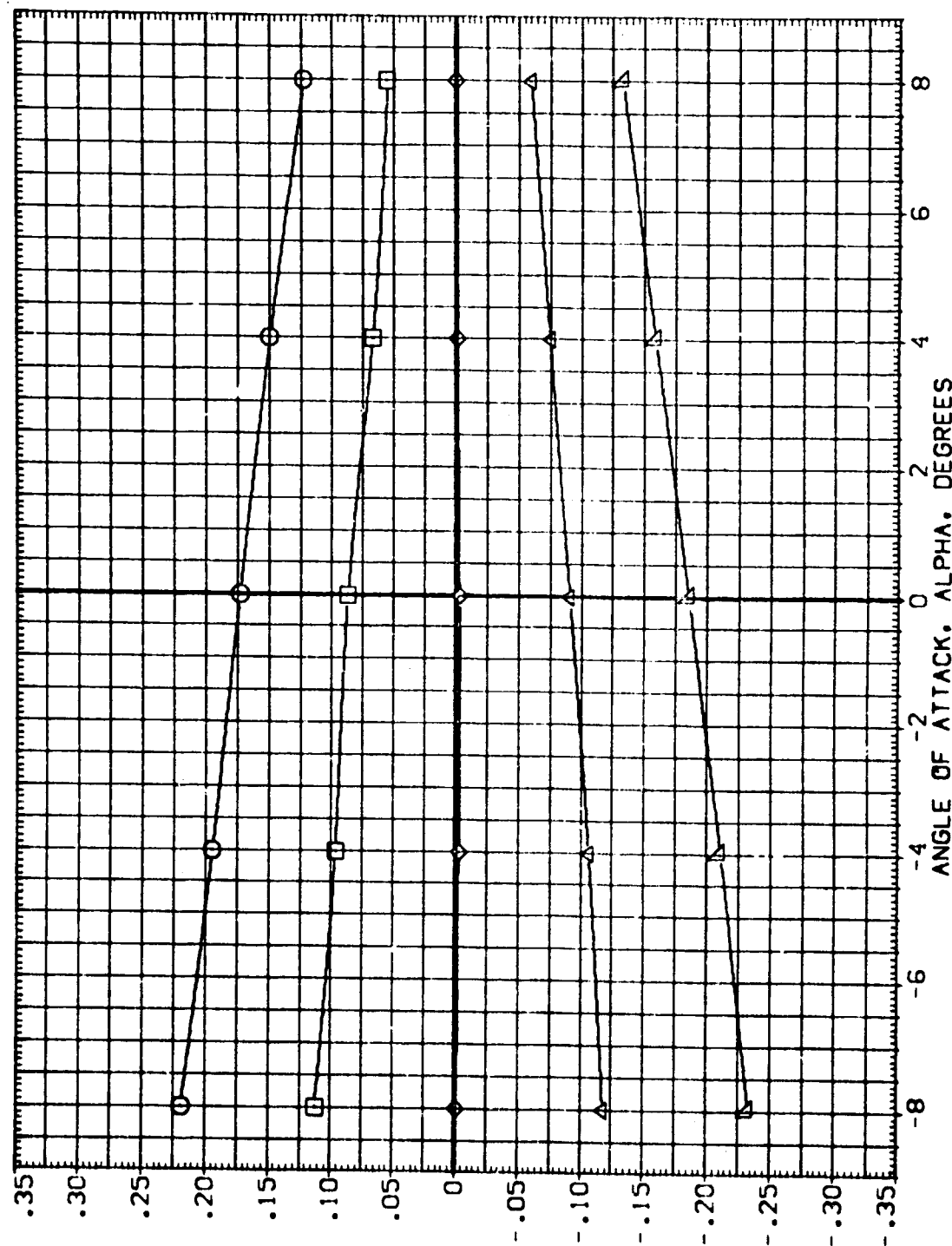


FIG. 42 LV (01 T12 S12 N25) • MACH = 1.05 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1047)

SYMBOL
 0
 1
 2
 3
 4
 5
 6
 7
 8
 9

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.049
 ELEVON .000
 SPOILER .000

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 UREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

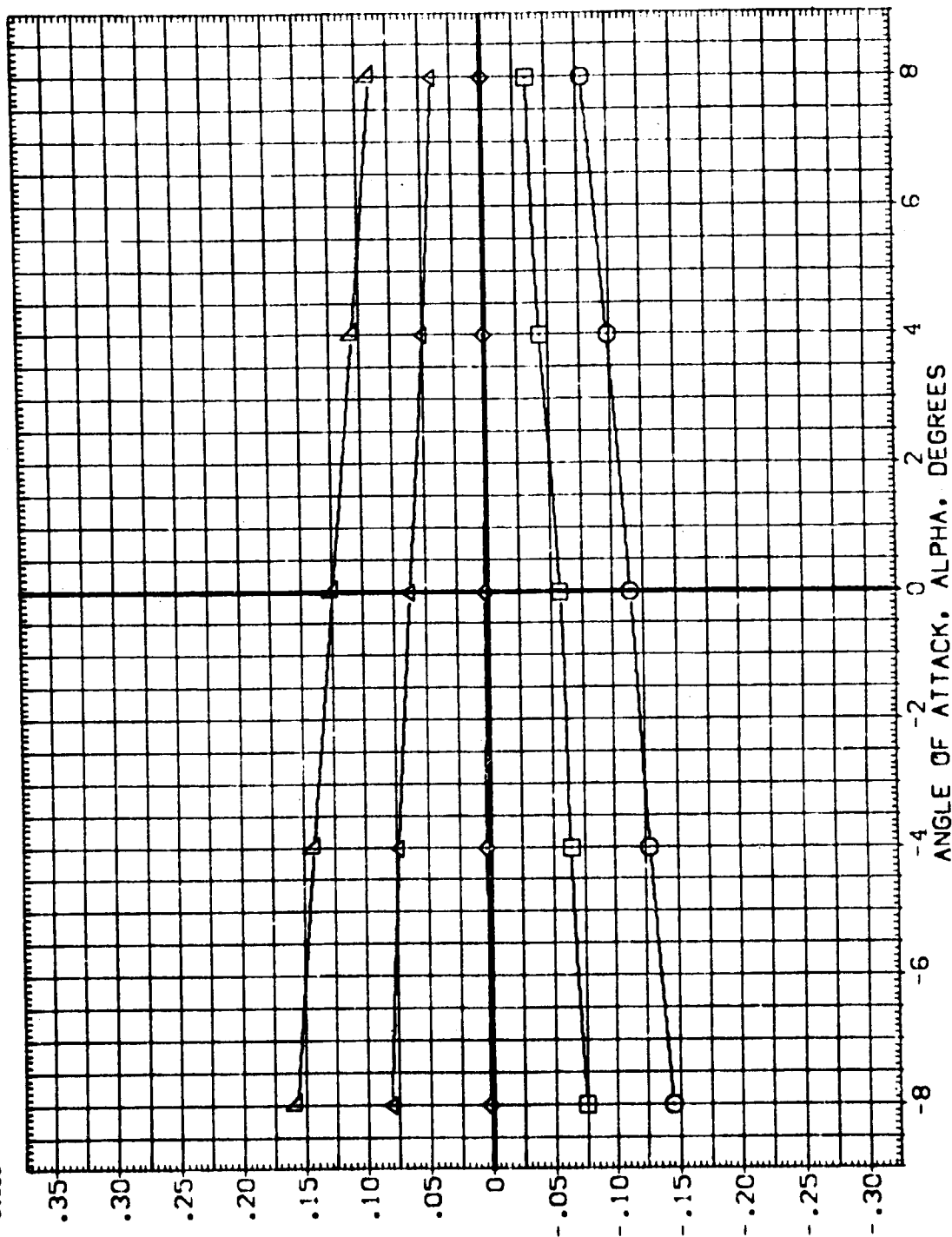


FIG. 42 LV (01 T12 S12 N25) • MACH = 1.05 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1047)

SYMBOL
 REF. 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.049
 RUDDER .000
 ELEVON .000
 SPEEDK .000

REFERENCE INFORMATION
 50.FT.
 IN.
 IN.
 IN.
 IN.

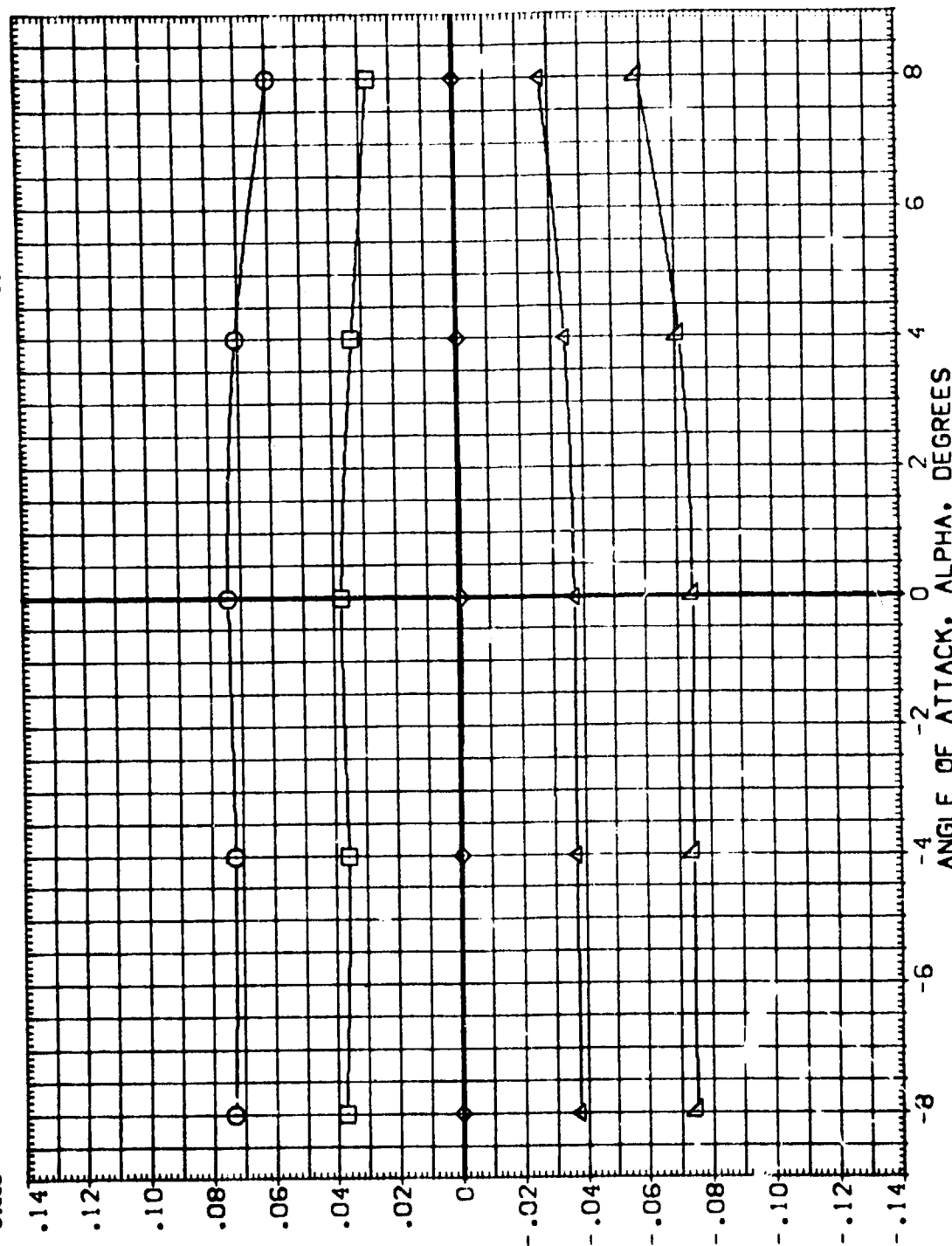


FIG. 42 LV (01 T12 S12 N25) , MACH = 1.05 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1048)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.101
 ELEVON .000
 SPOBRK .000

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9500
 SCALE .0300

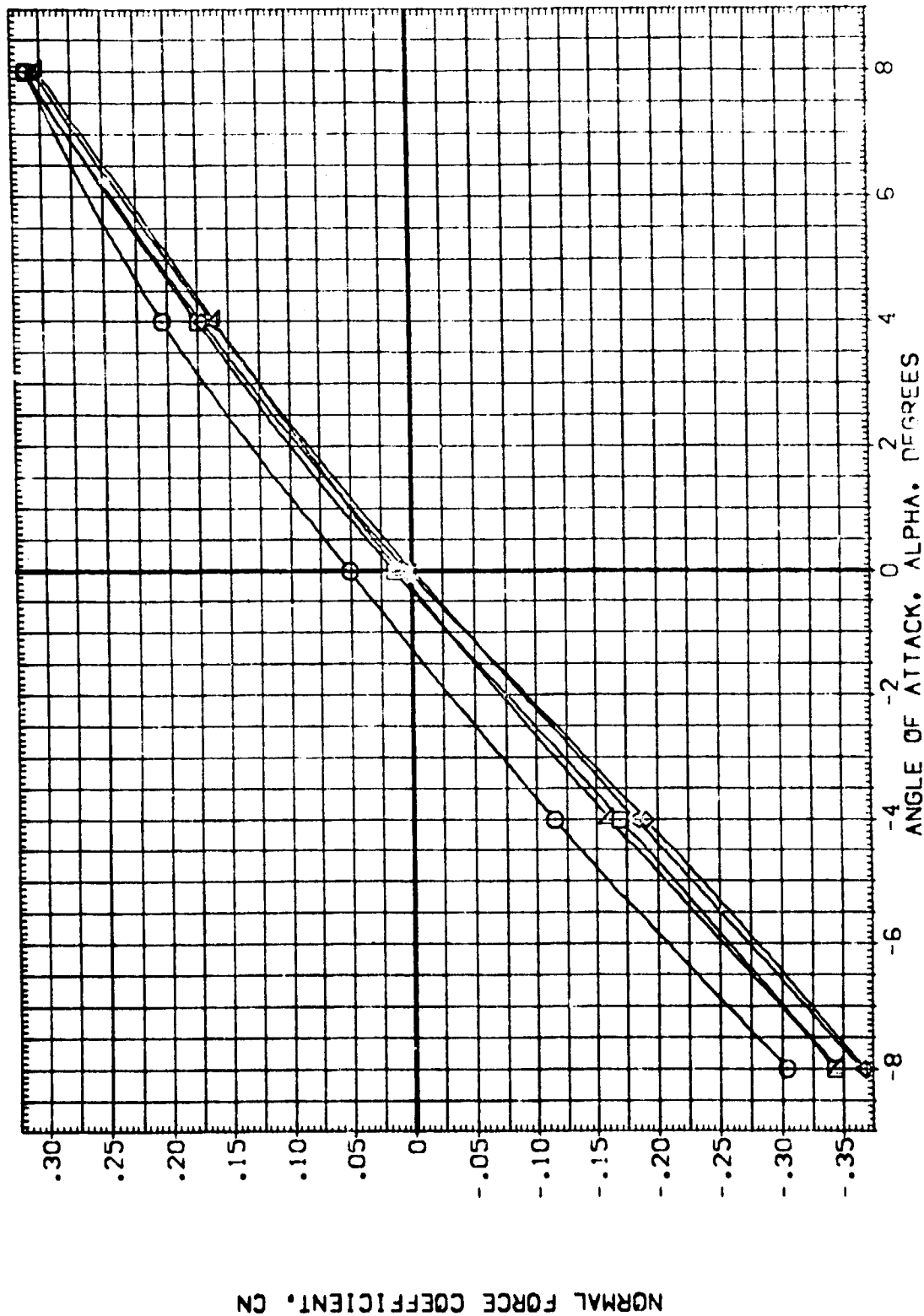


FIG. 43 LV (01 T12 S12 N25) • MACH = 1.10 (ORBITER BALANCE)

SYMBOL
 2
 4
 6
 8
 10

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1048)

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 1.10
 1.10
 1.10
 1.10
 1.10

PARAMETRIC VALUES
 1.101
 .000
 .000
 .000
 .000

ELEVON
 .000
 .000
 .000
 .000
 .000

SPORX
 .000
 .000
 .000
 .000
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

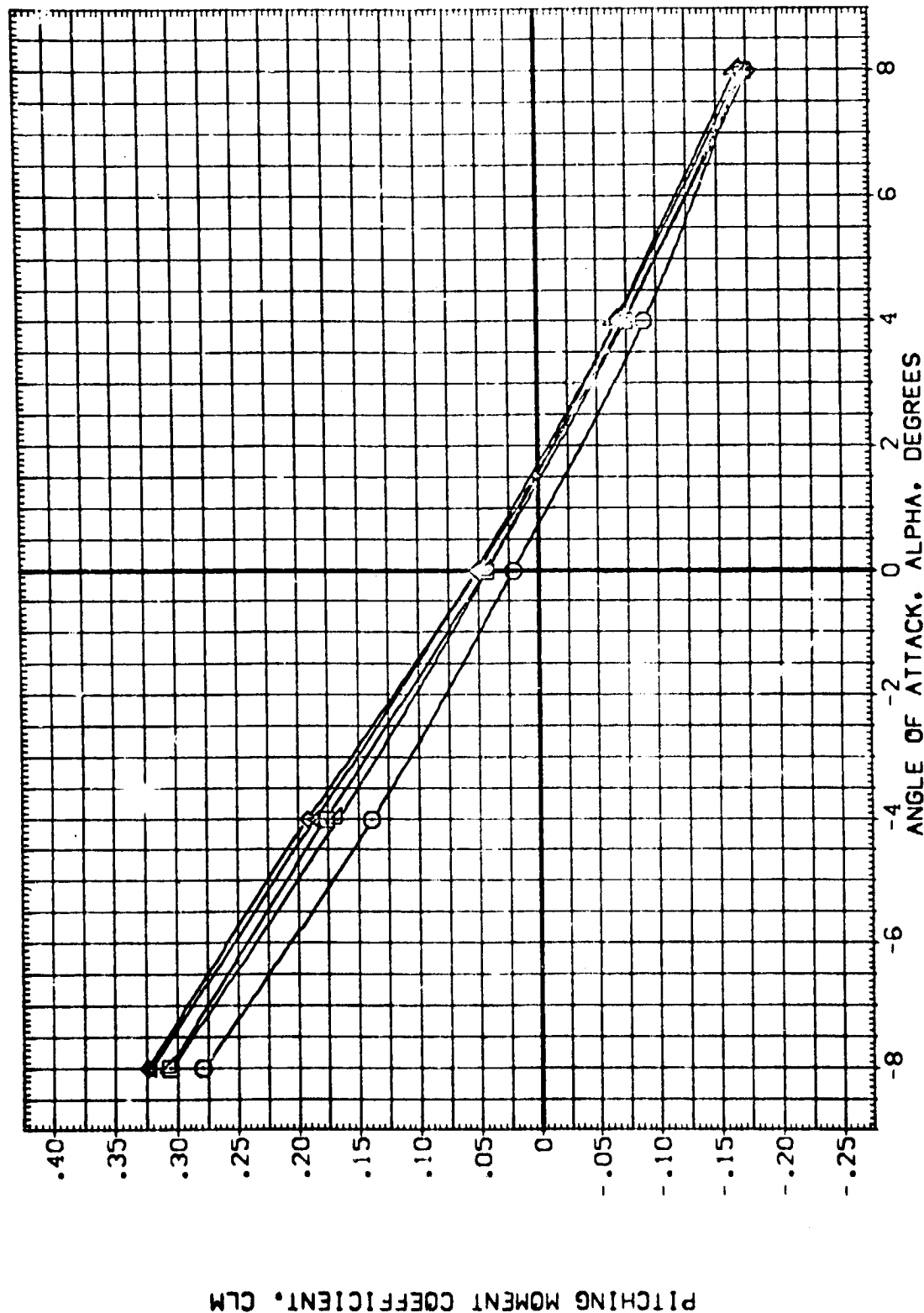


FIG. 43 LV (01 T12 S12 N25) • MACH = 1.10 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1048)

SYMBOL	PARAMETRIC VALUES			REFERENCE INFORMATION	
	BETA	MACH	ELEVON	SREF	SG.FT.
○	-8.000	1.101	.000	LREF	2.4210
□	-4.000	.000	.000	BREF	38.709C
◇	.000	.000	.000	XMRP	38.709C
△	4.000	.000	.000	YMRP	.000C
▽	8.000	.000	.000	ZMRP	9.990C
				SCALE	.03C

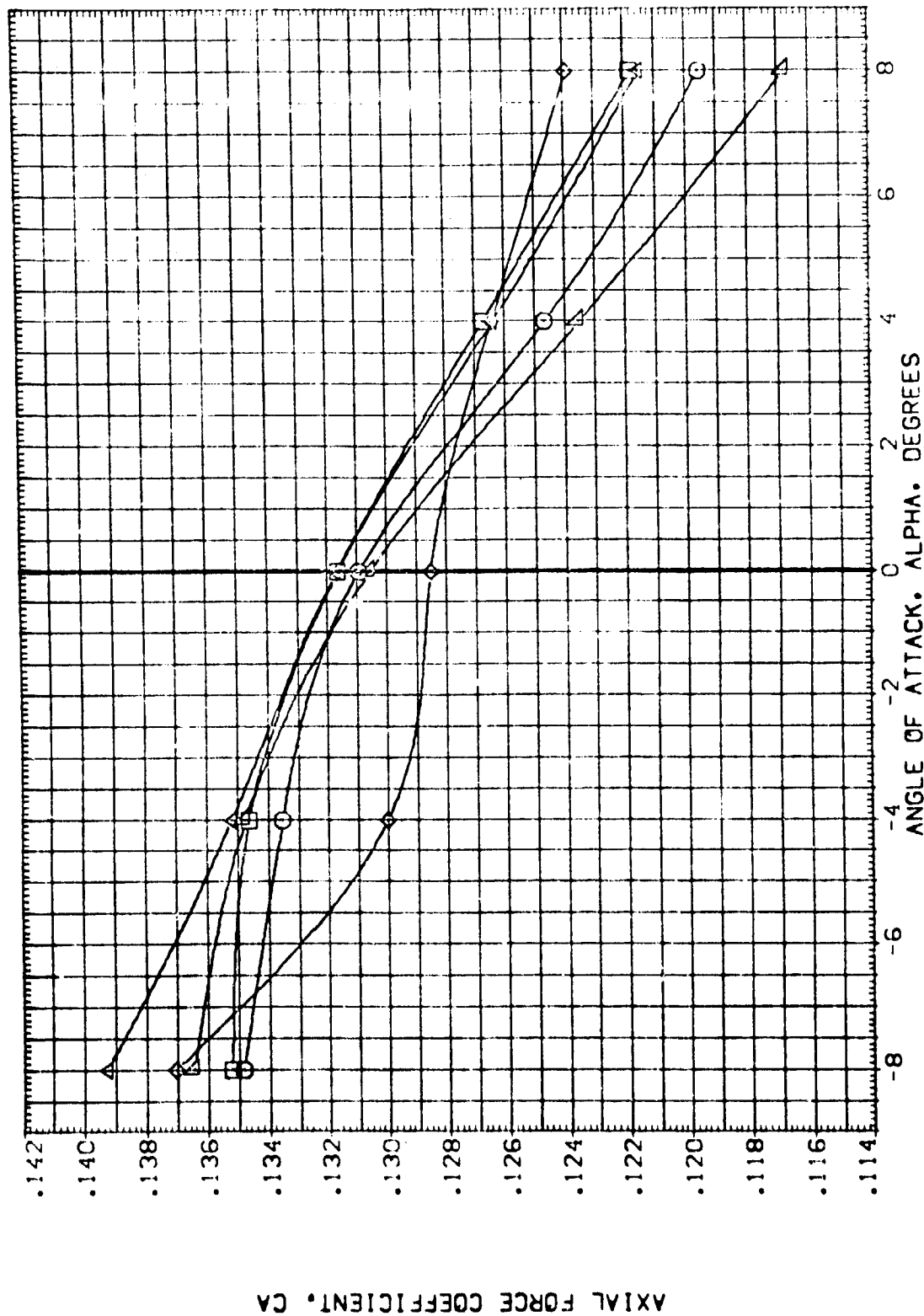


FIG. 43 LV (01 T12 S12 N25) • MACH = 1.10 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (IB104b)

SYMBOL
 -8.000
 -4.000
 .000
 4.000
 8.000

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.101
 RUDDER .000
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

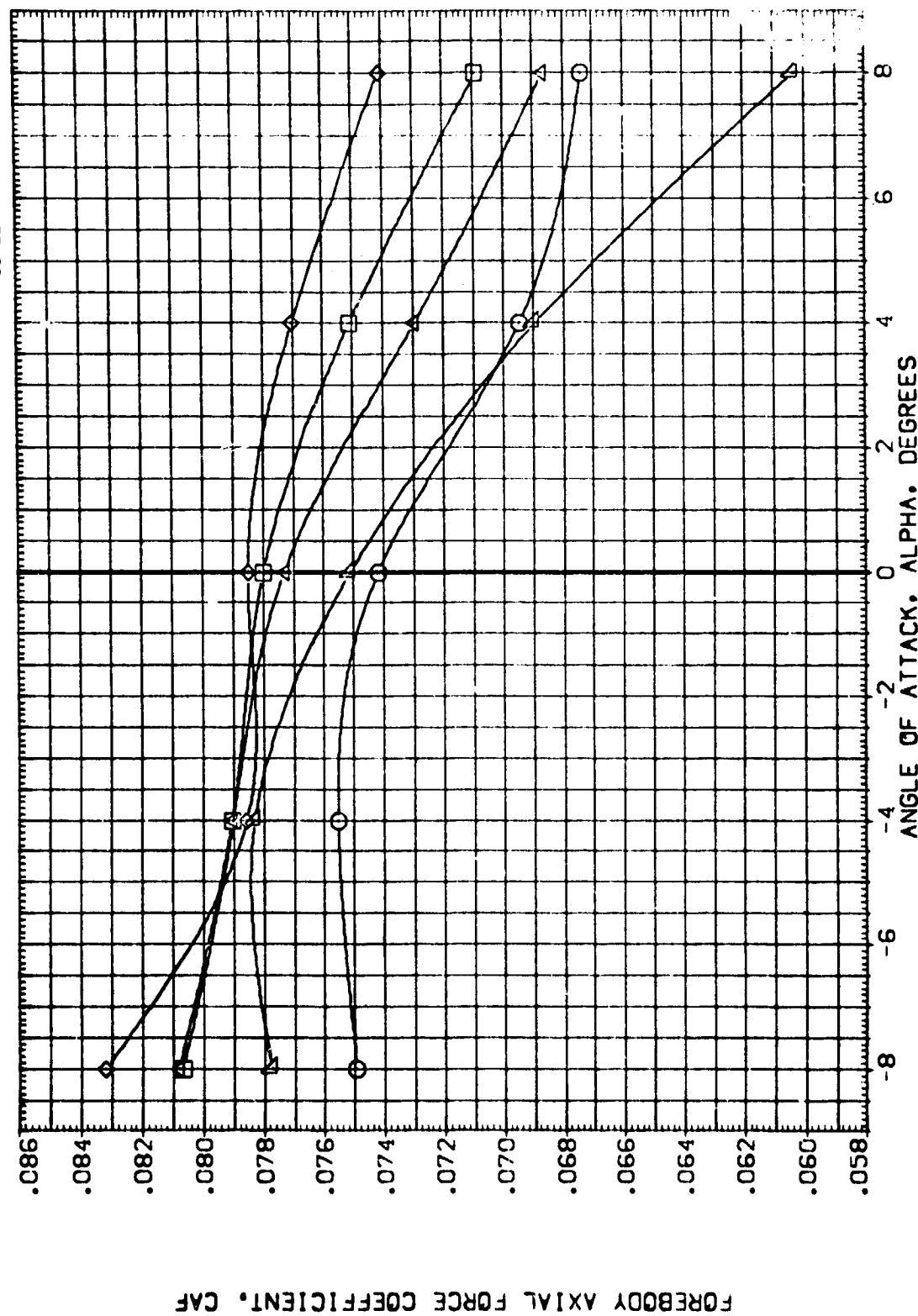


FIG. 43 LV (01 T12 S12 N25) , MACH = 1.10 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (IB1048J)

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9500 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000
 MACH 1.101
 RUDDER .000
 ELEVON .000
 SPOBRK .000

SYMBOL
 ○ □ ◇ △ ▽

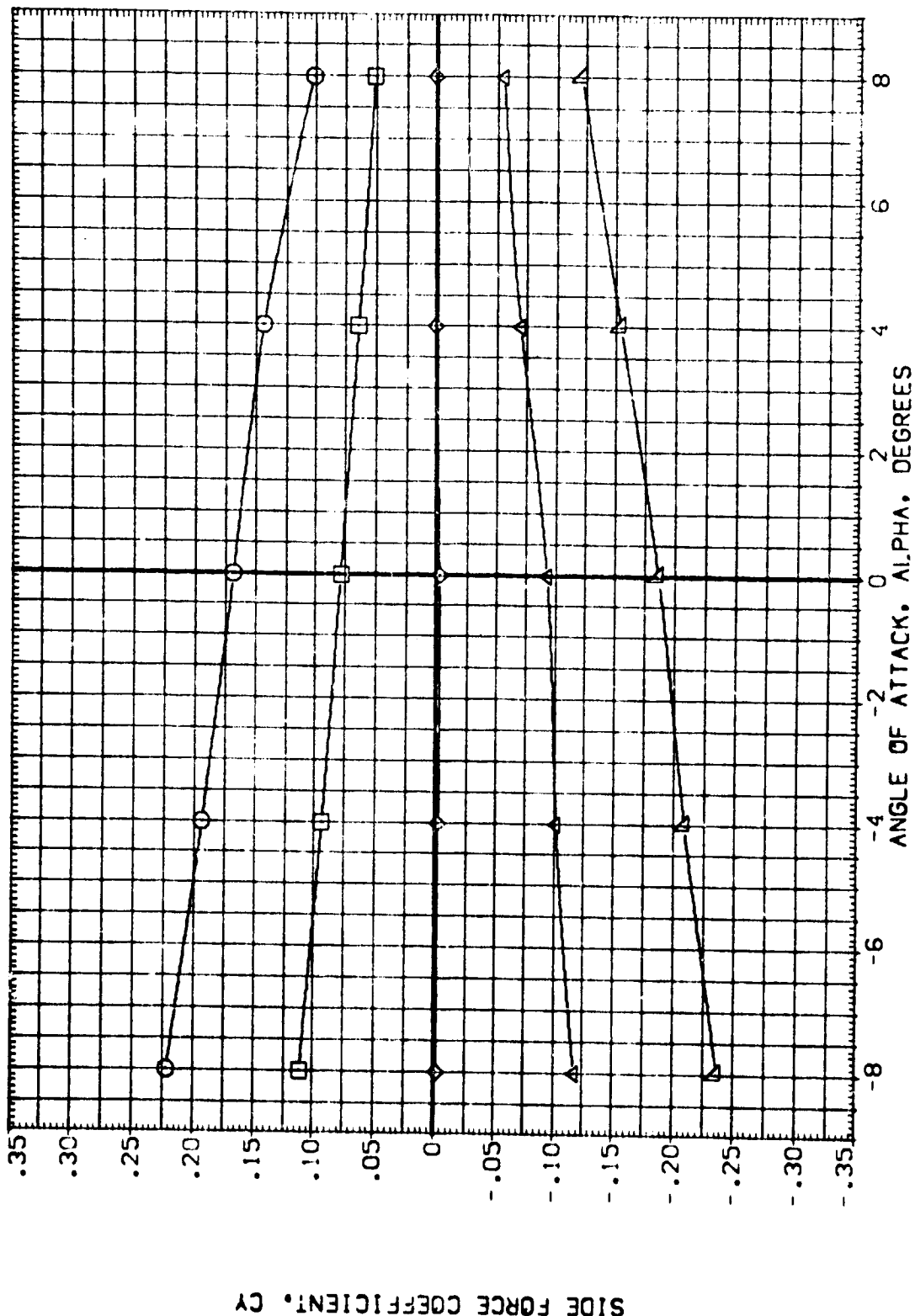


FIG. 43 LV (01 T12 S12 N25) • MACH = 1.10 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1048)

SYMBOL
 ○ □ ◇ △ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 1.101 ELEVON
 .000 SPOBRK

MACH
 .000

RUDDER
 .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

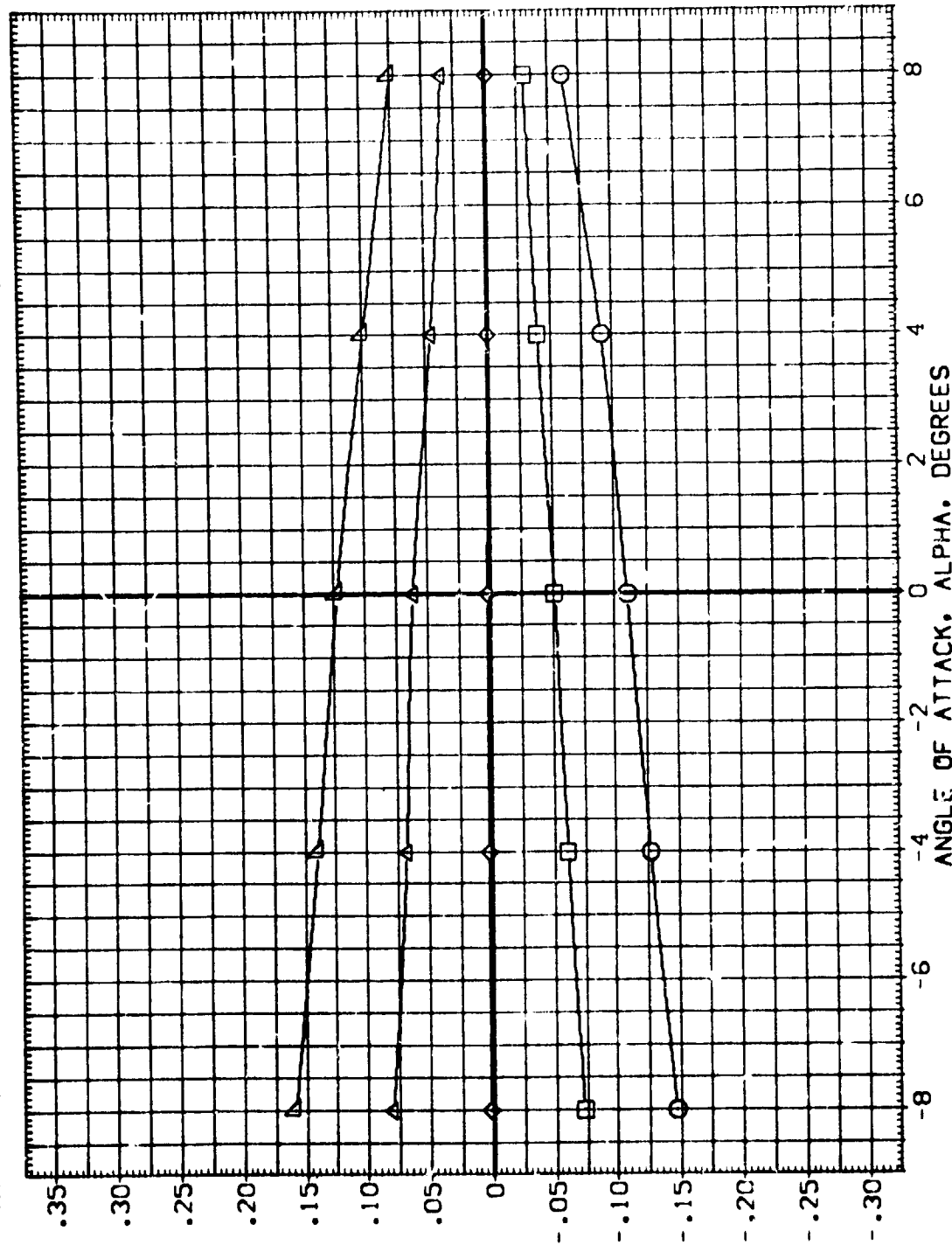


FIG. 43 LV (01 T12 S12 N25) • MACH = 1.10 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1048)

SYMBOL
 ▽ ◊ ◻ ○

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.101
 RUDDER .000
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.0000
 SCALE .0000

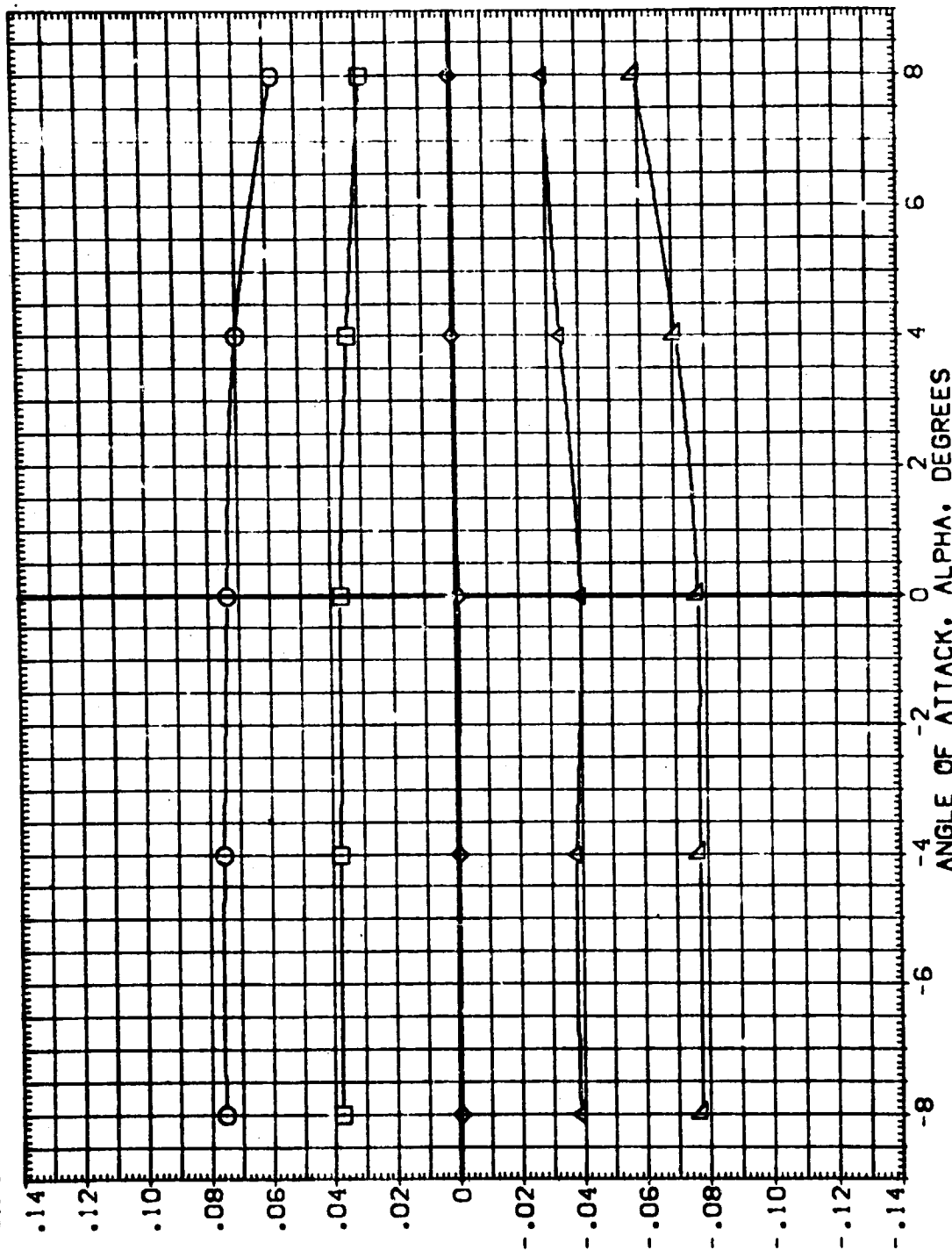


FIG. 43 LV (01 T12 S12 N25) , MACH = 1.10 (ORBITER BALANCE)

AMES 11-716 1A14A 01-T12-S12 N25 (ORBITER) (1B1049)

SYMBOL
 □
 ◇
 △
 ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 1.150

PARAMETRIC VALUES
 ELEVON
 .000

SPDRK
 .000

RUDDER
 .000

REFERENCE INFORMATION
 SREF 2.1210 SQ.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

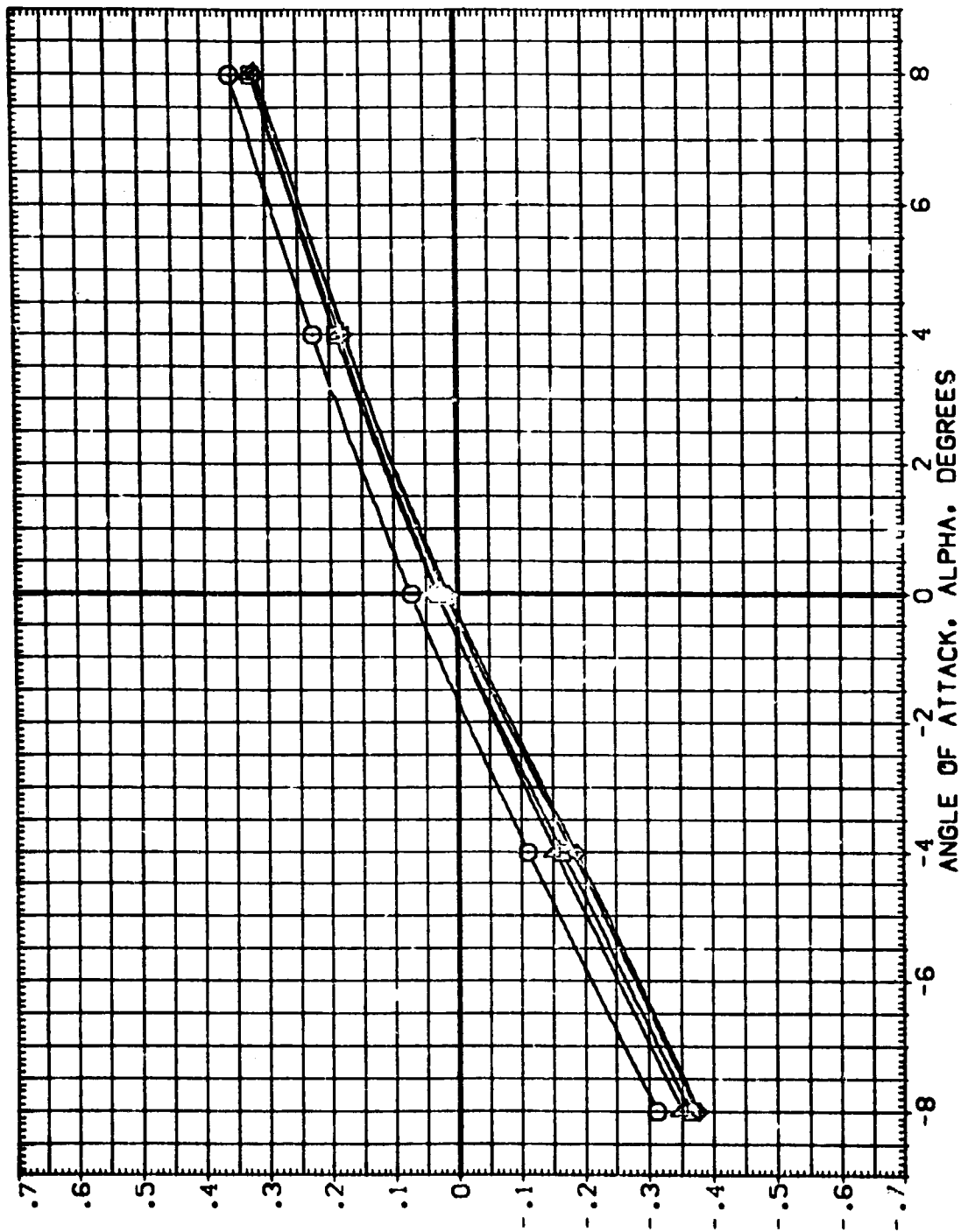


FIG. 44 LV (01 T12 S12 N25) , MACH = 1.15 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (151049)

SYMBOL
 ○
 □
 ◇
 △
 ✓

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.150
 ELEVON .000
 SPOBRK .000

RUDDER .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 YMR0 .0000 IN.
 YMR0 .0000 IN.
 ZMR0 9.9900 IN.
 SCALE .0300

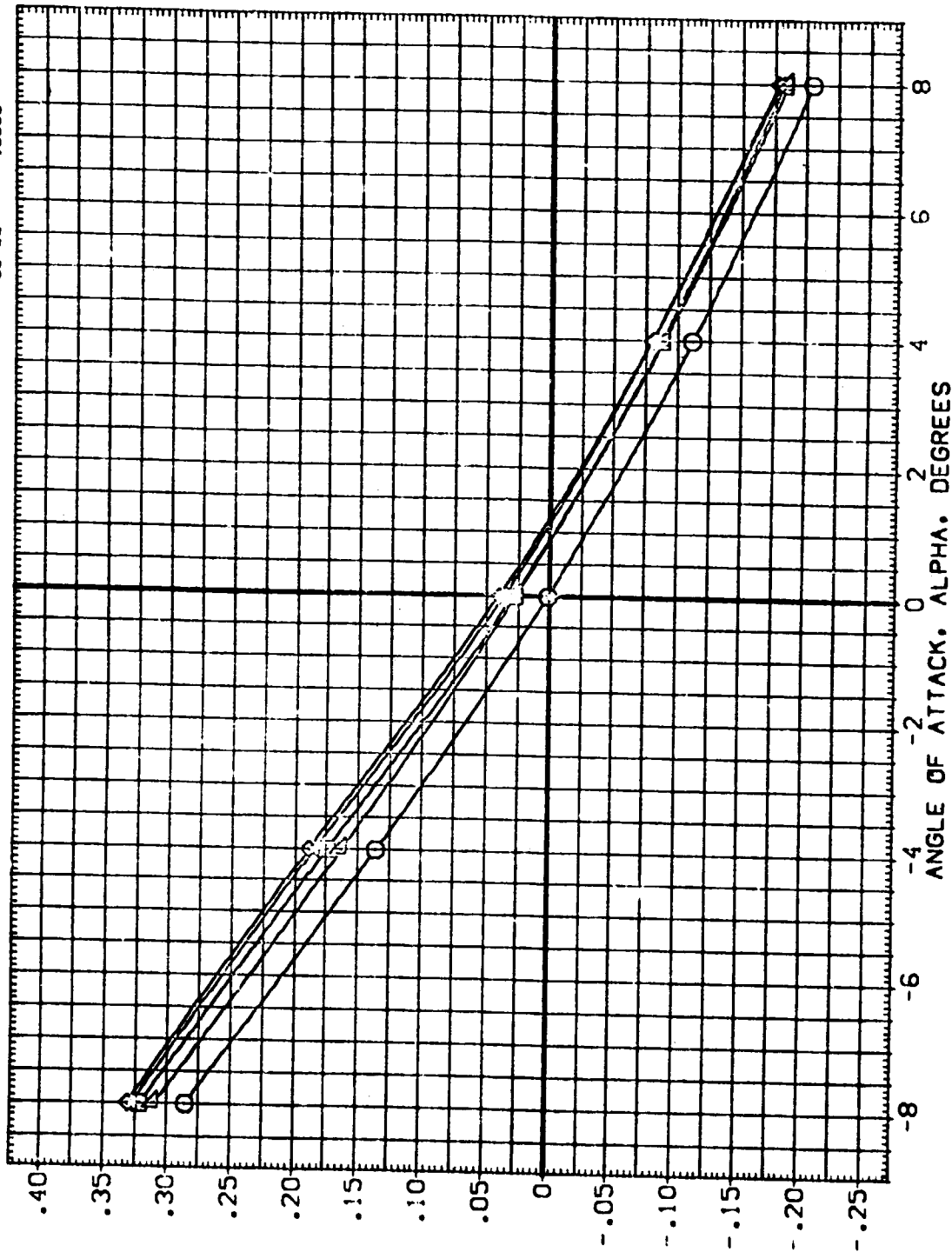


FIG. 44 LV (01 T12 S12 N25) • MACH = 1.15 (ORBITER BALANCE)

AMES 11-716 1A14A 01+112+S12 N25 (ORBITER) (1B1049)

SYMBOL
 ▽ ◊ □ ◻ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.150
 RUDDER .000
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.5900 IN.
 SCALE .0300

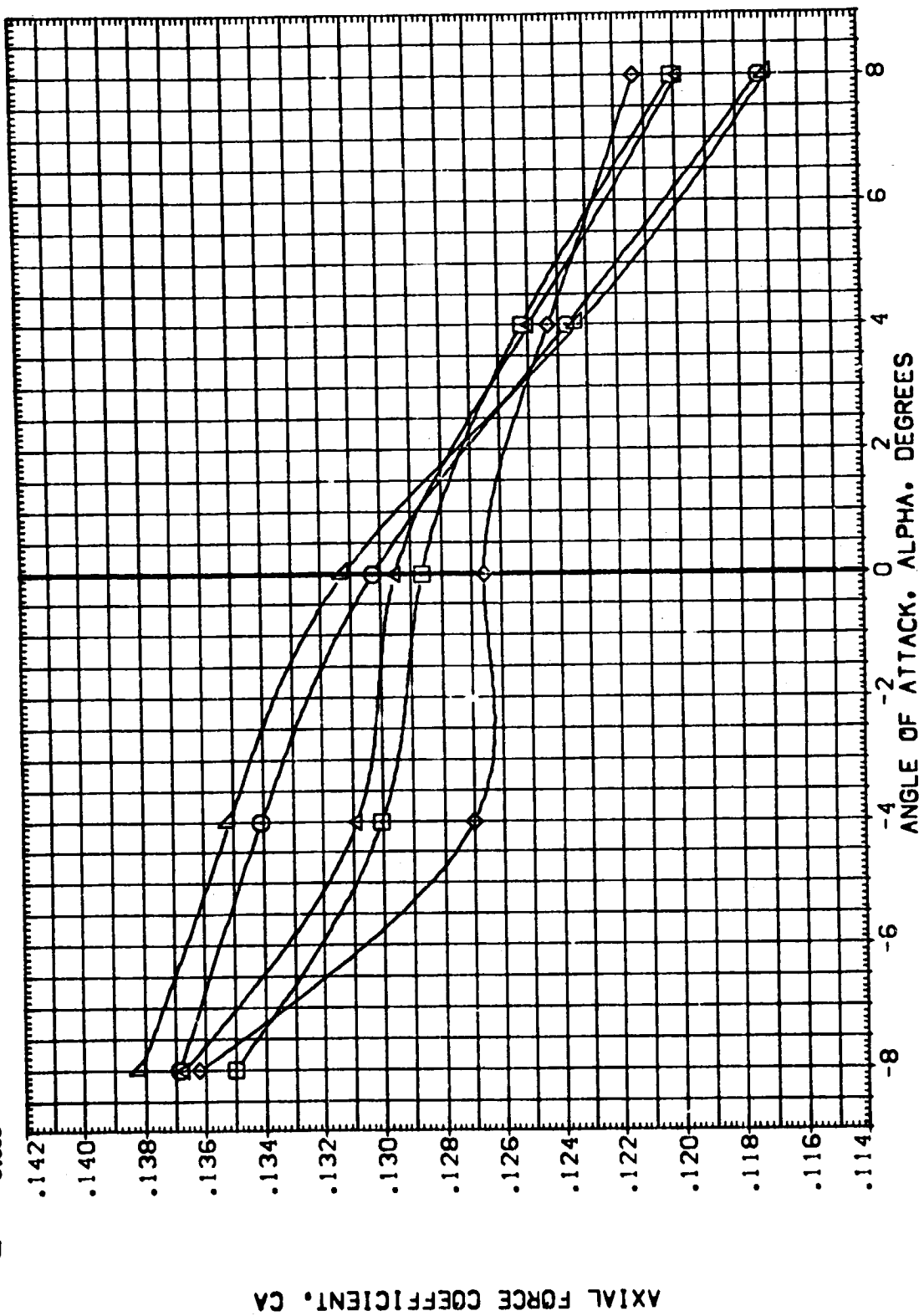


FIG. 44 LV (01 112 S12 N25) , MACH = 1.15 (ORBITER BALANCE)

AMES 11-716 1A14A 01+112+S12 N25 (ORBITER) (1B1049)

SYMBOL
 0
 1
 2
 3
 4

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 RUDDER

PARAMETRIC VALUES
 1.150 ELEVON
 .000 SPOILER

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 X1000 .0000
 Y1000 .0000
 Z1000 9.9900
 SCALE .0300

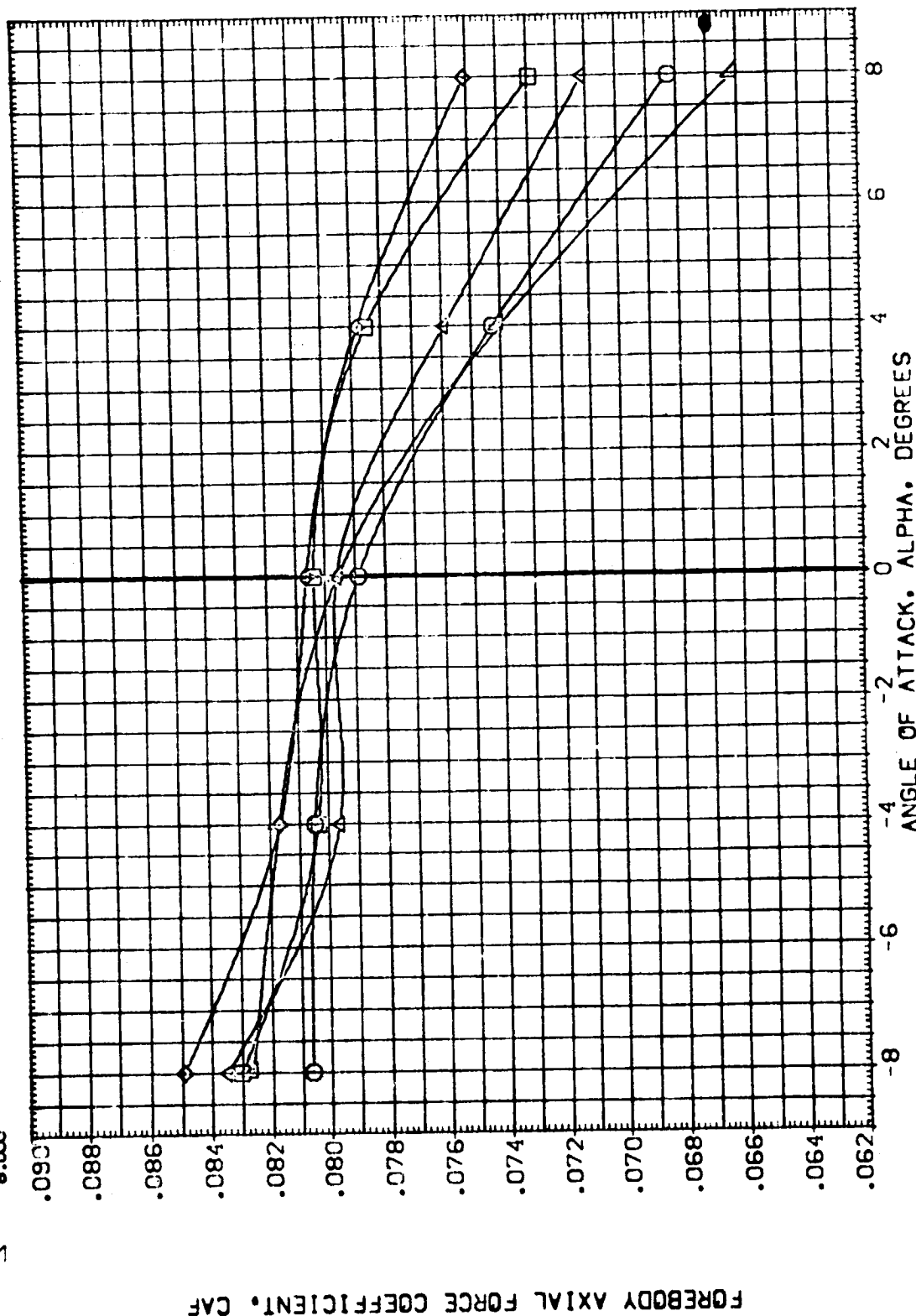


FIG. 44 LV (01 112 S12 N25) • MACH = 1.15 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1049)

REFERENCE INFORMATION
 SREF 2.4210 50.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000 MACH 1.150 ELEVON .000
 -4.000 RUDDER .000
 .000 SPDRK .000
 4.000
 8.000

SYMBOL
 ▽
 △
 □
 ○
 ◇

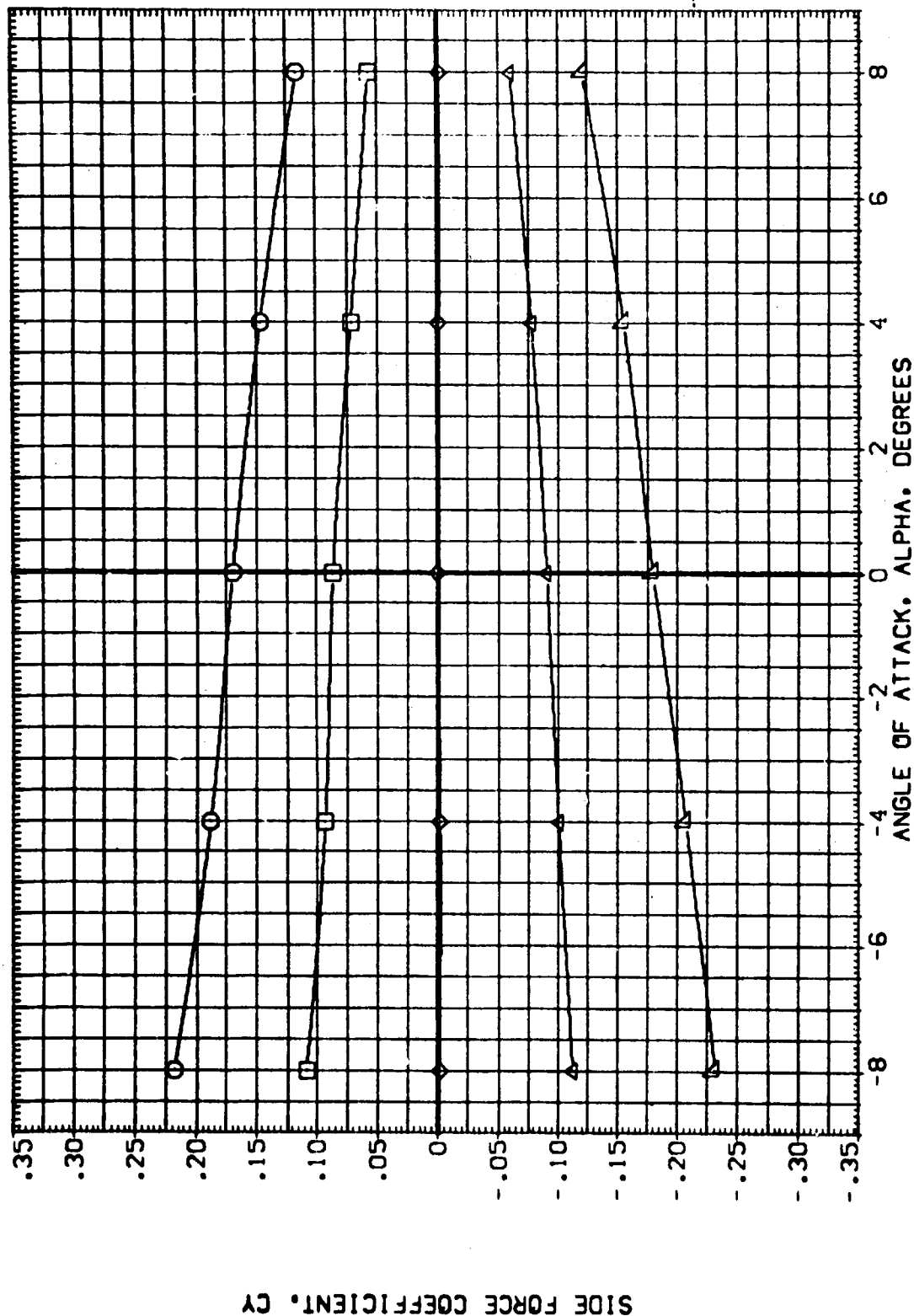


FIG. 44 LV (01 T12 S12 N25) , MACH = 1.15 (ORBITER BALANCE)

SYMBOL BETA MACH RUDDER
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 1.150 ELEVON
 .000 SPOON

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)

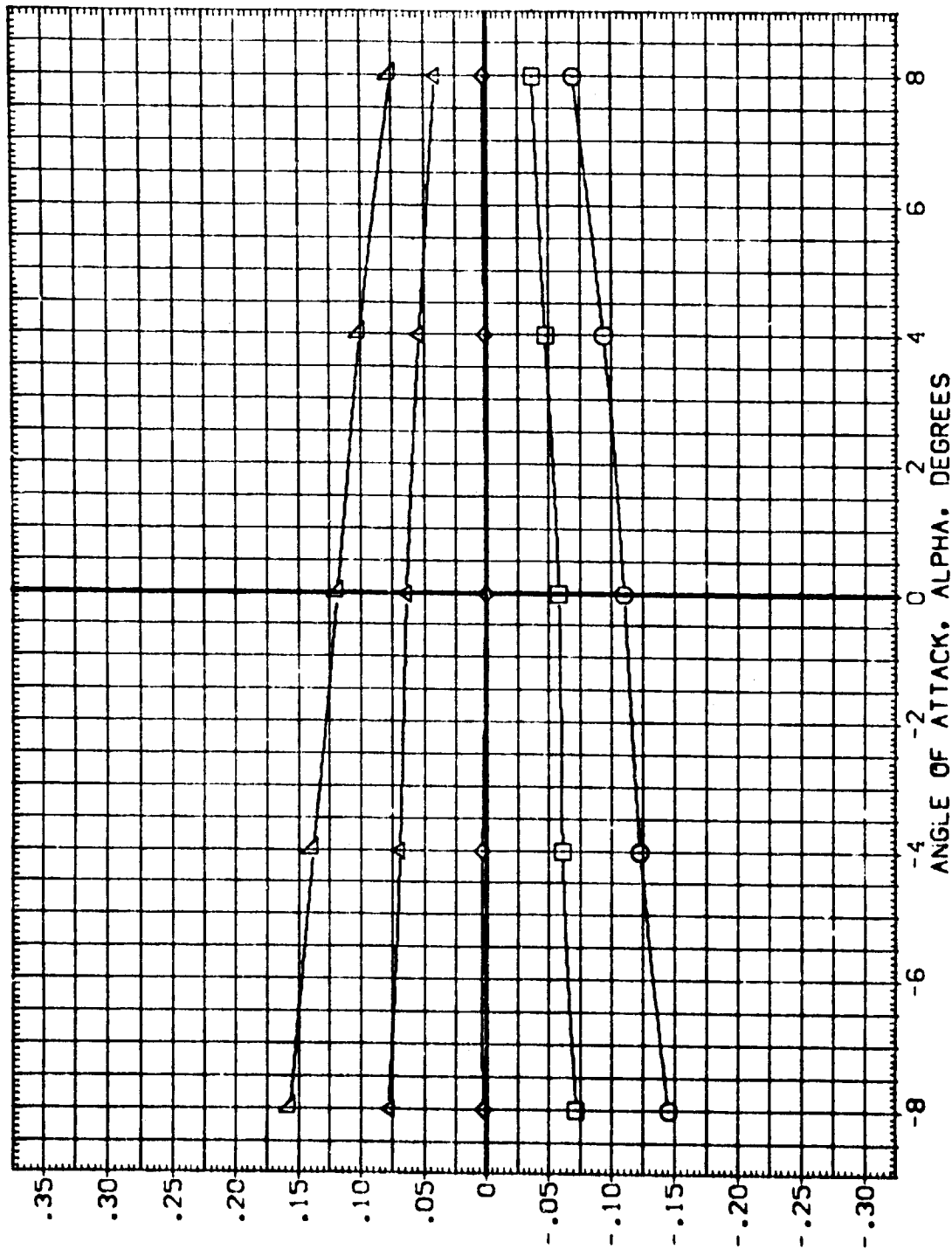


FIG. 44 LV (01 T12 S12 N25) , MACH = 1.15 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1049)

SYMBOL
 ○ □ ◇ △ ▽

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 1.150

PARAMETRIC VALUES
 ELEVON
 .000

SPDRK
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

SO.FT.
 IN.
 IN.
 IN.
 IN.

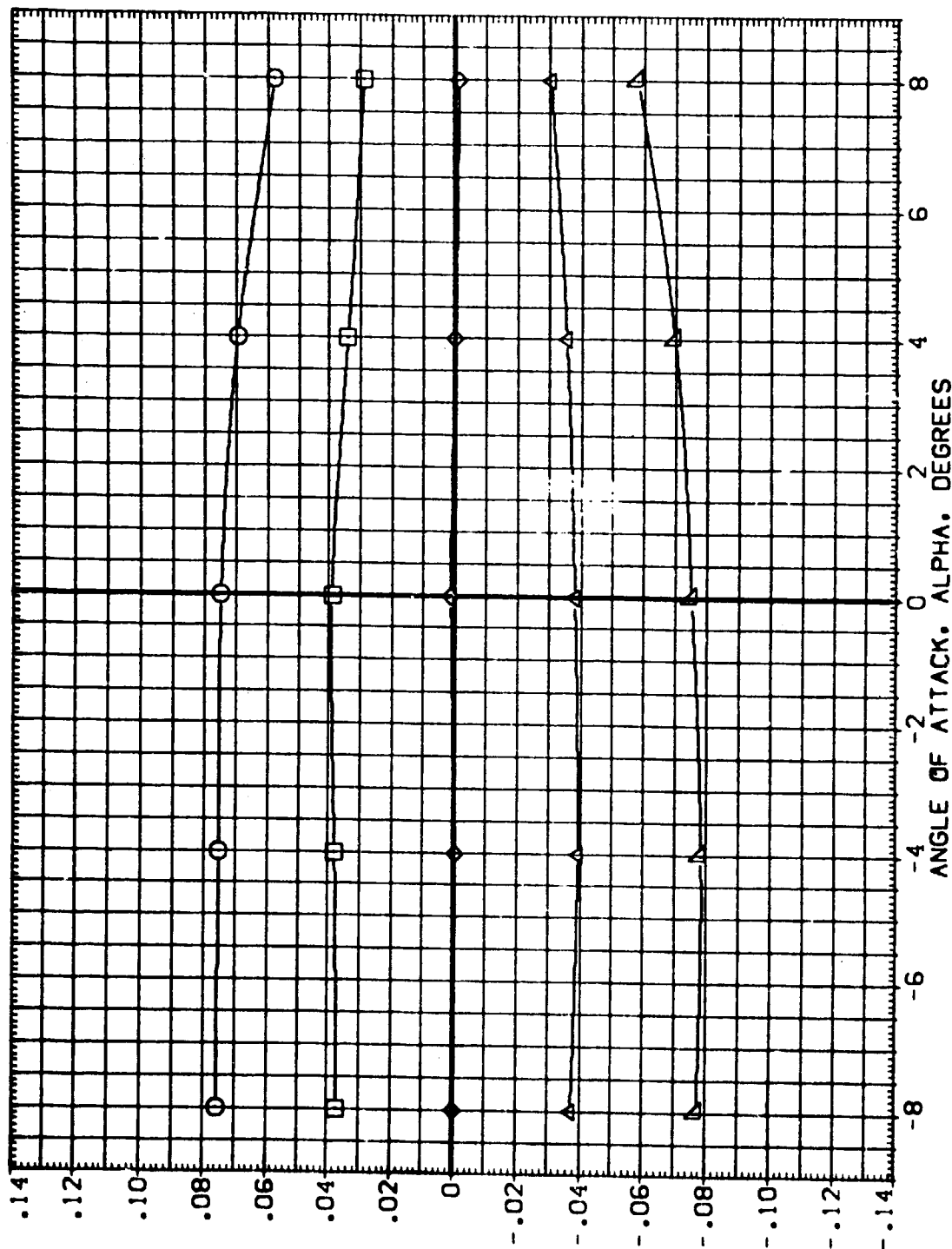


FIG. 44 LV (01 T12 S12 N25) • MACH = 1.15 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1050)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.247
 ELEVON .000
 SPDBRK .000

.000
 .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

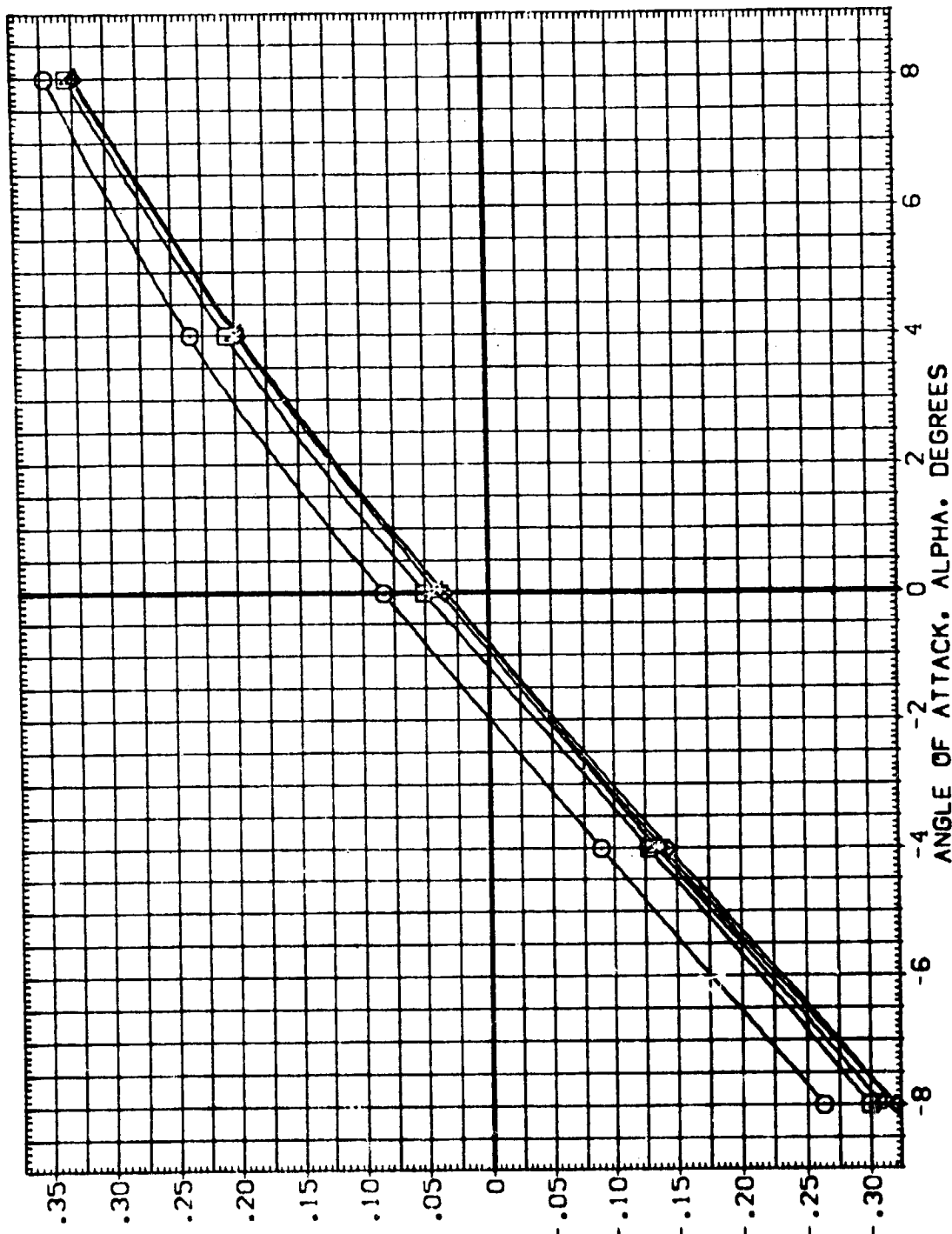


FIG. 45 LV (01 T12 S12 N25) • MACH = 1.25 (ORBITER BALANCE)

AMES 11-716 1A14A 01+112+S12 N25 (ORBITER) (181050)

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

PARAMETRIC VALUES
 1.247 ELEVON .000
 .000 SPOBRK

MACH
 RUDDER

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

SYMBOL
 ▽
 ◊
 □
 ○

PITCHING MOMENT COEFFICIENT, CLM

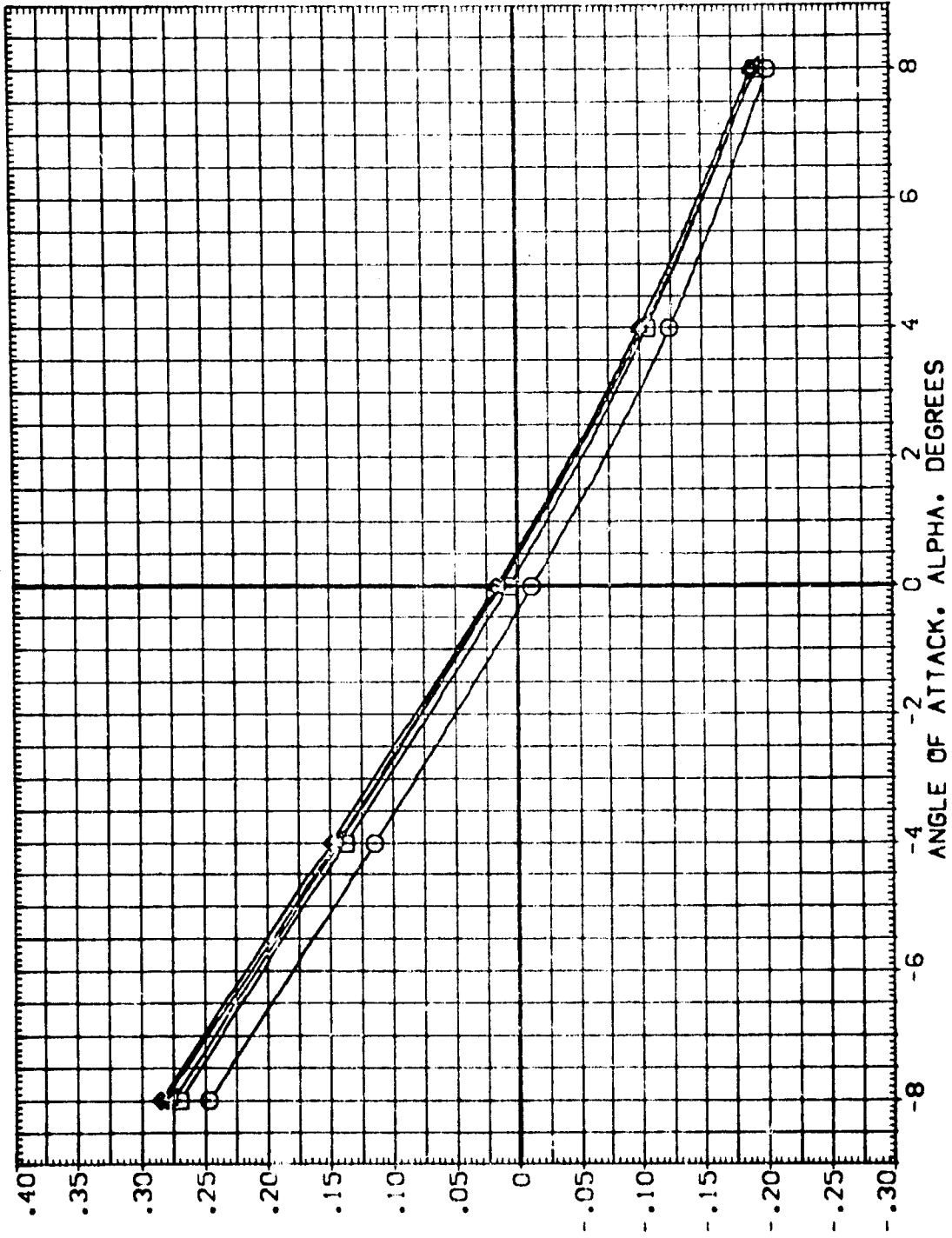


FIG. 45 LV (01 112 S12 N25) • MACH = 1.25 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (181050)

SYMBOL
 -8.000
 -4.000
 .000
 4.000
 8.000

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.247
 RUDDER .000
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.9900
 SCALE .0300

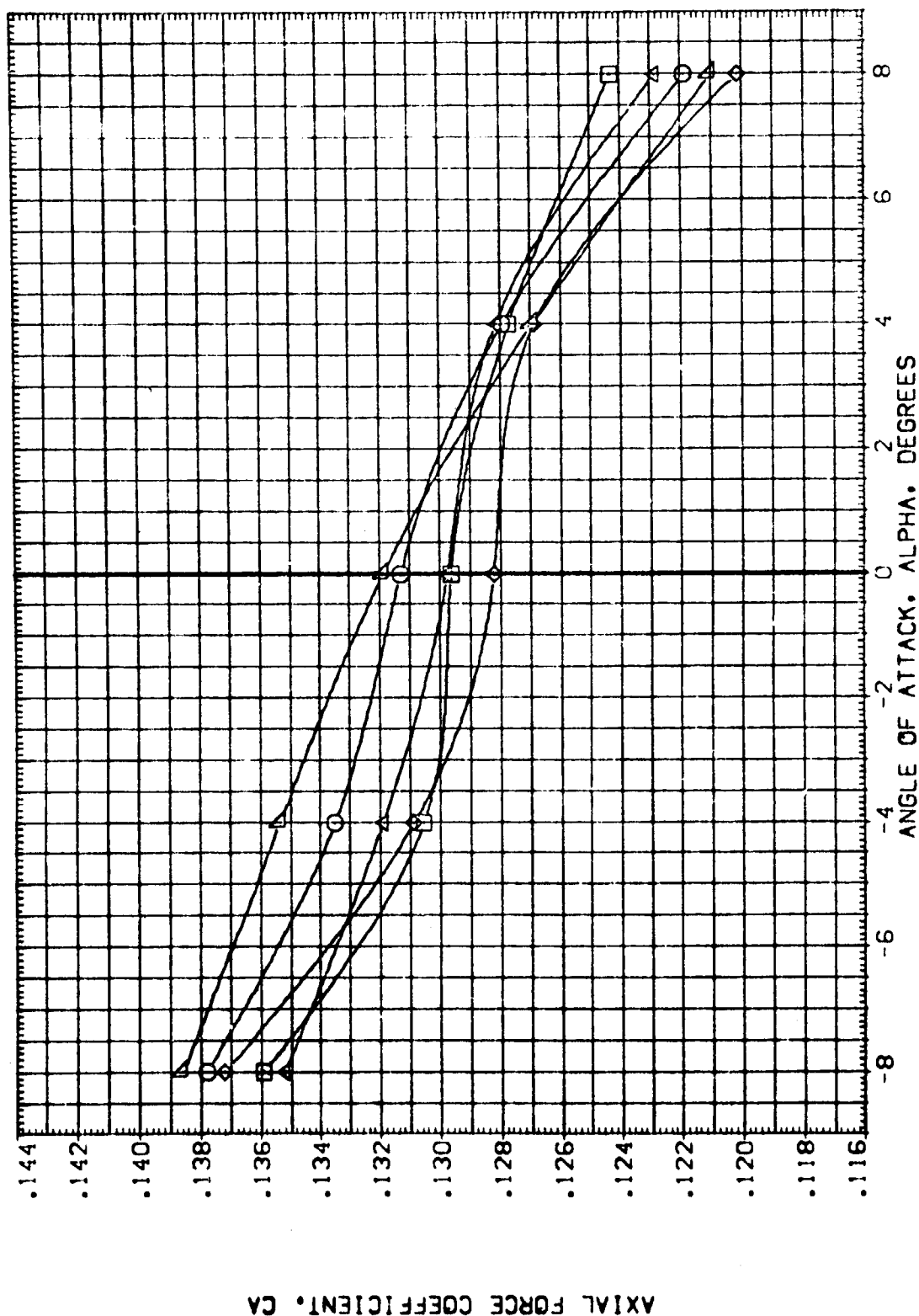


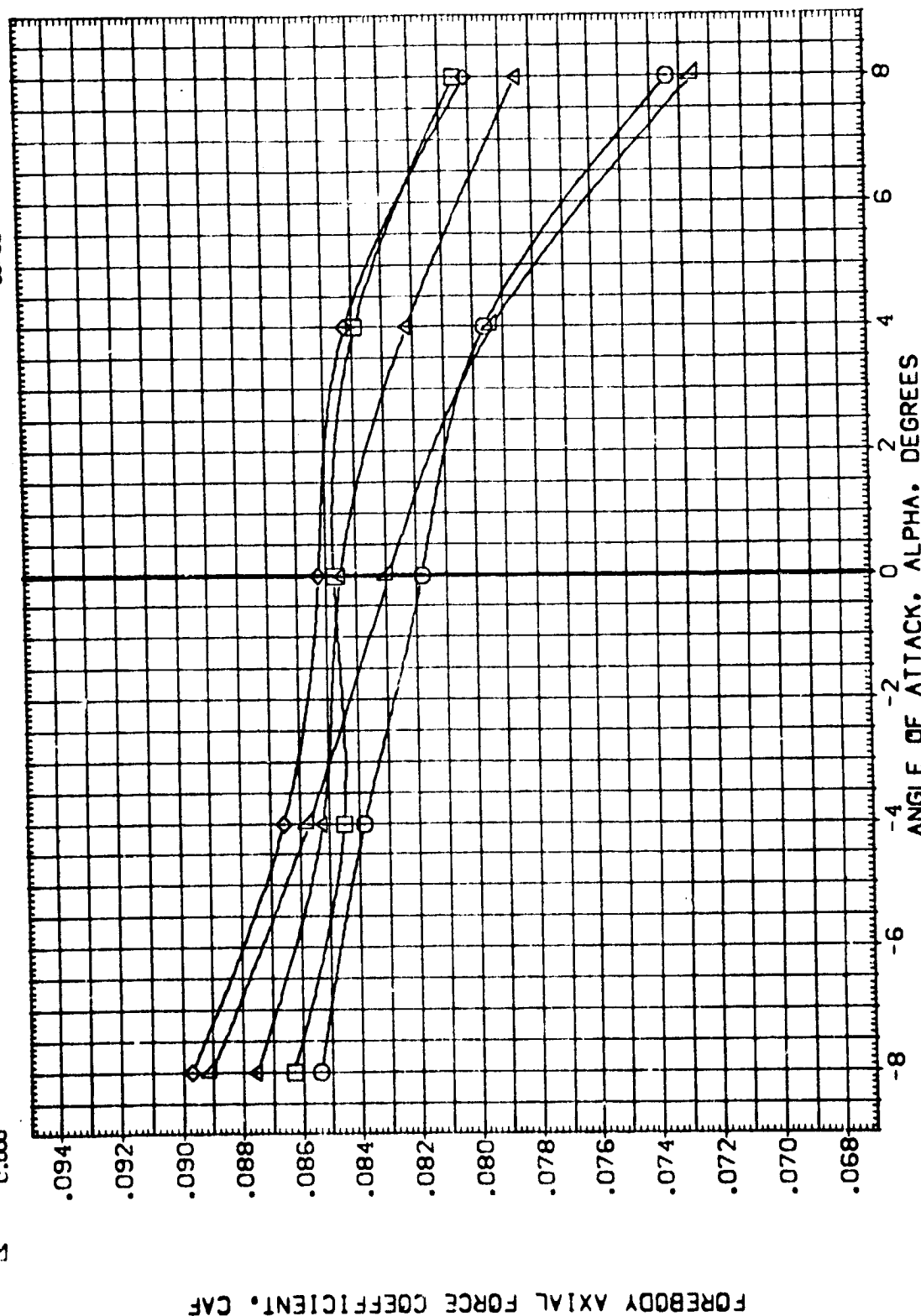
FIG. 45 LV (01 T12 S12 N25) , MACH = 1.25 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25

REFERENCE INFORMATION	
SREF	2.4210
LREF	38.7090
BREF	38.7090
XMRP	.0000
YMRP	.0000
ZMRP	9.9900
SCALE	.0300

BETA		PARAMETRIC VALUES	
-8.000	MACH	1.247	ELEVON .000
-4.000	RUDER	.000	SPOBRK .000

Symbol 011044



E16-45 1 V (01 T12 S12 N25) ; MACH = 1.25 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1050)

SYMBOL
 ○ □ ◇ △

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.247
 RUDDER .000
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

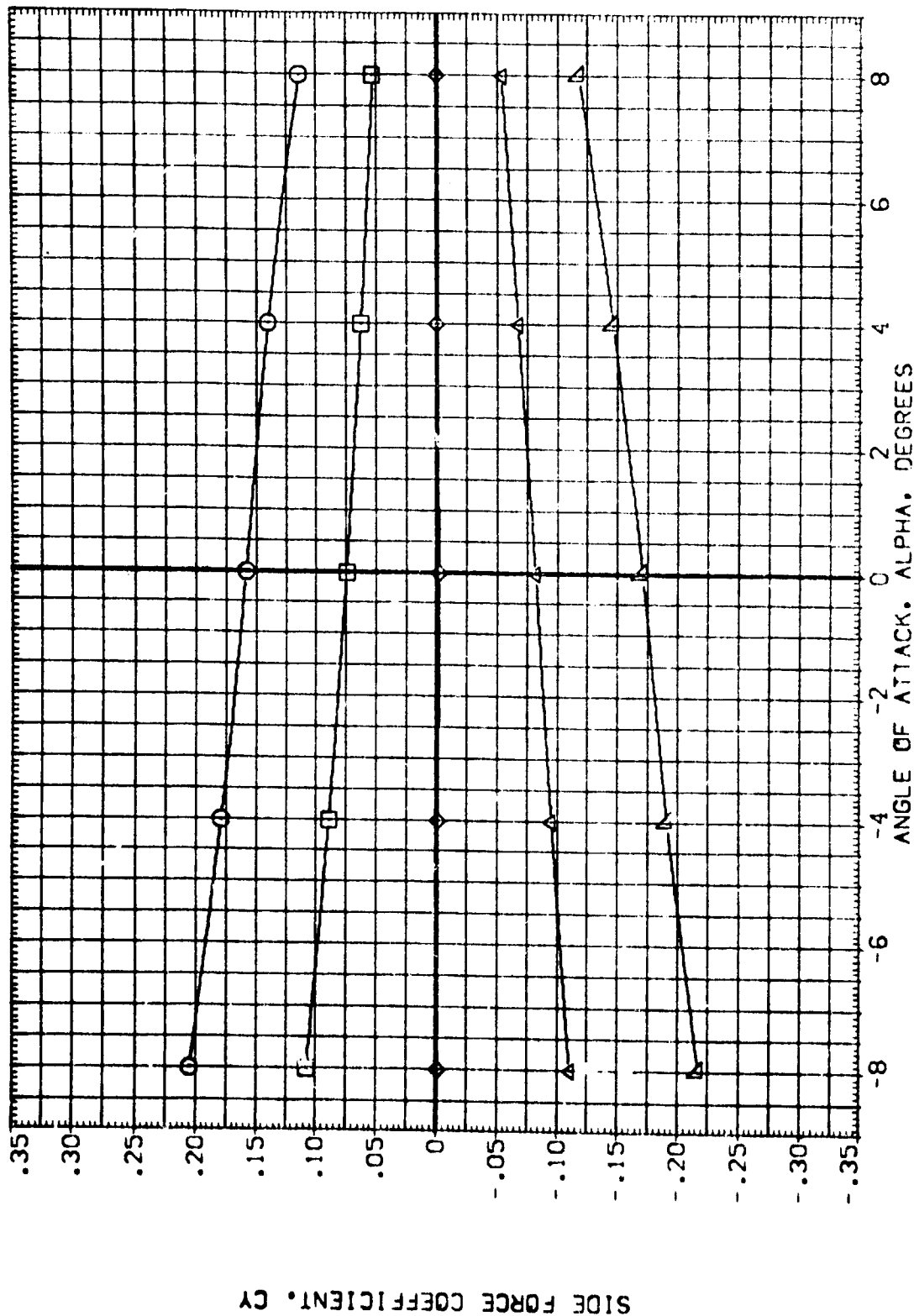


FIG. 45 LV (01 T12 S12 N25) , MACH = 1.25 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1050)

SYMBOL
 ▽ ◊ □ ○

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

PARAMETRIC VALUES
 MACH 1.247
 RUDDER .000
 ELEVON .000
 SPOBRK .000

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7050 IN.
 BREF 38.7050 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9500 IN.
 SCALE .0300

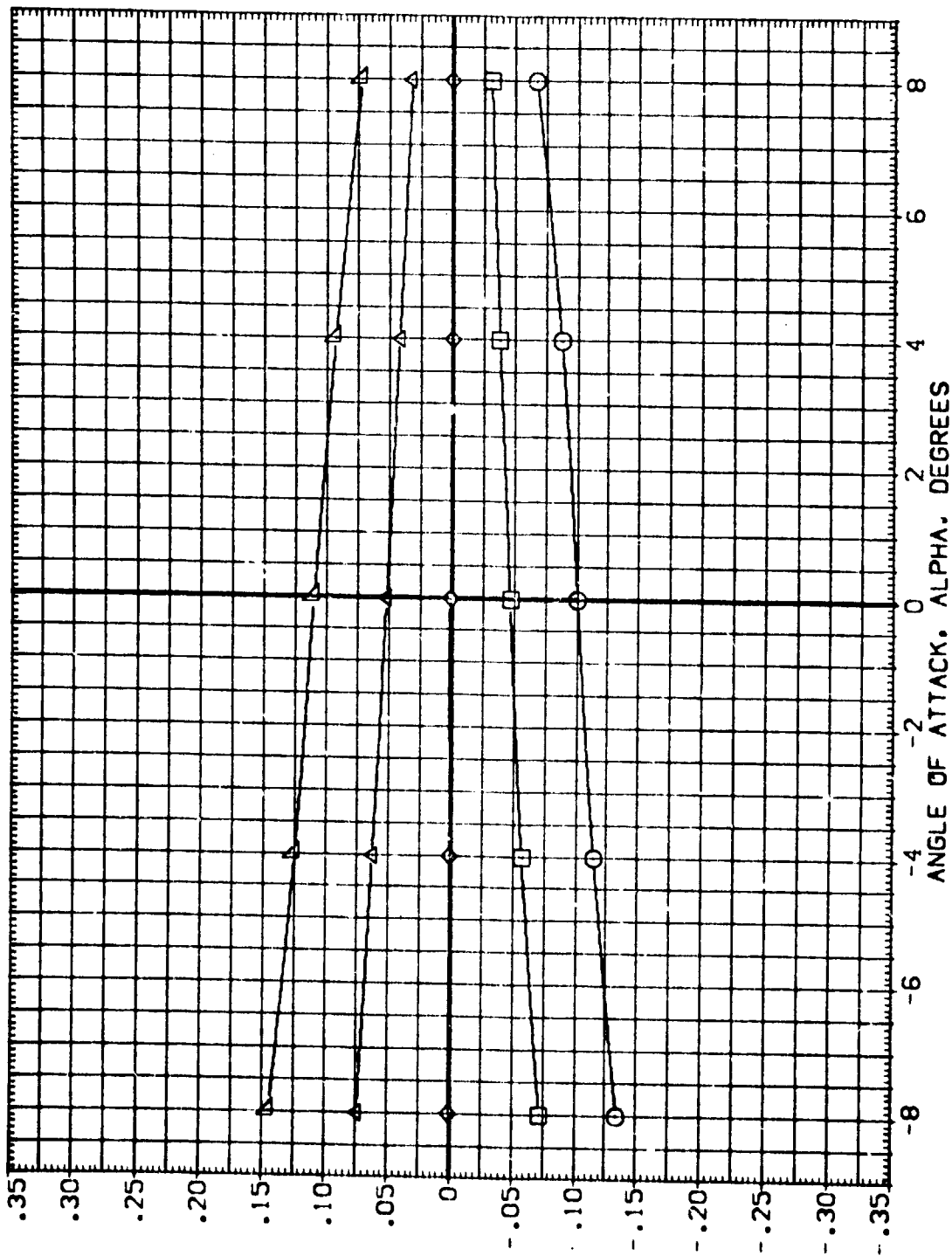


FIG. 45 LV (0: T12 S12 N25) • MACH = 1.25 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (181050)

SYMBOL

BETA
-8.000
-4.000
.000
4.000
8.000

PARAMETRIC VALUES
1.247 ELEVON
.000 SPOBRK

REFERENCE INFORMATION	
SREF	2.4210
LREF	38.7090
BREF	38.7090
XMRP	.0000
YMRP	.0000
ZMRP	9.9920
SCALE	.0300

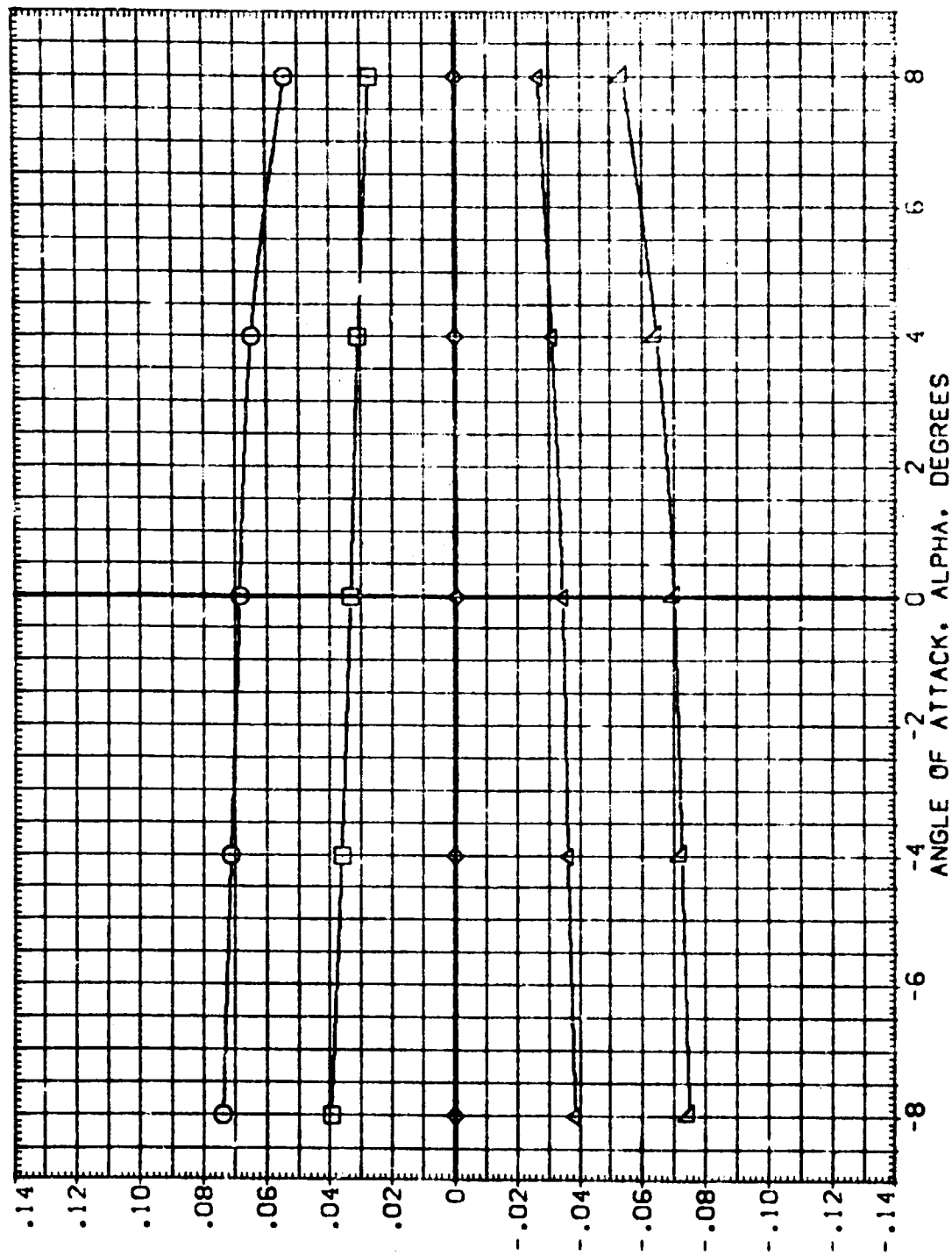


FIG. 45 LV (01 T12 S12 N25), MACH = 1.25 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1051)

SYMBOL
▽◇□○

BETA
-8.000
-4.000
0.000
4.000
8.000

MACH
1.395
1.000
1.000
1.000
1.000

PARAMETRIC VALUES
ELEVON
SPDRK

REFERENCE INFORMATION
SREF 2.4210
LREF 38.7090
BREF 38.7090
XPRP .0000
YPRP .0000
ZPRP 9.9900
SCALE .0300

SO.FT.
IN.
IN.
IN.
IN.

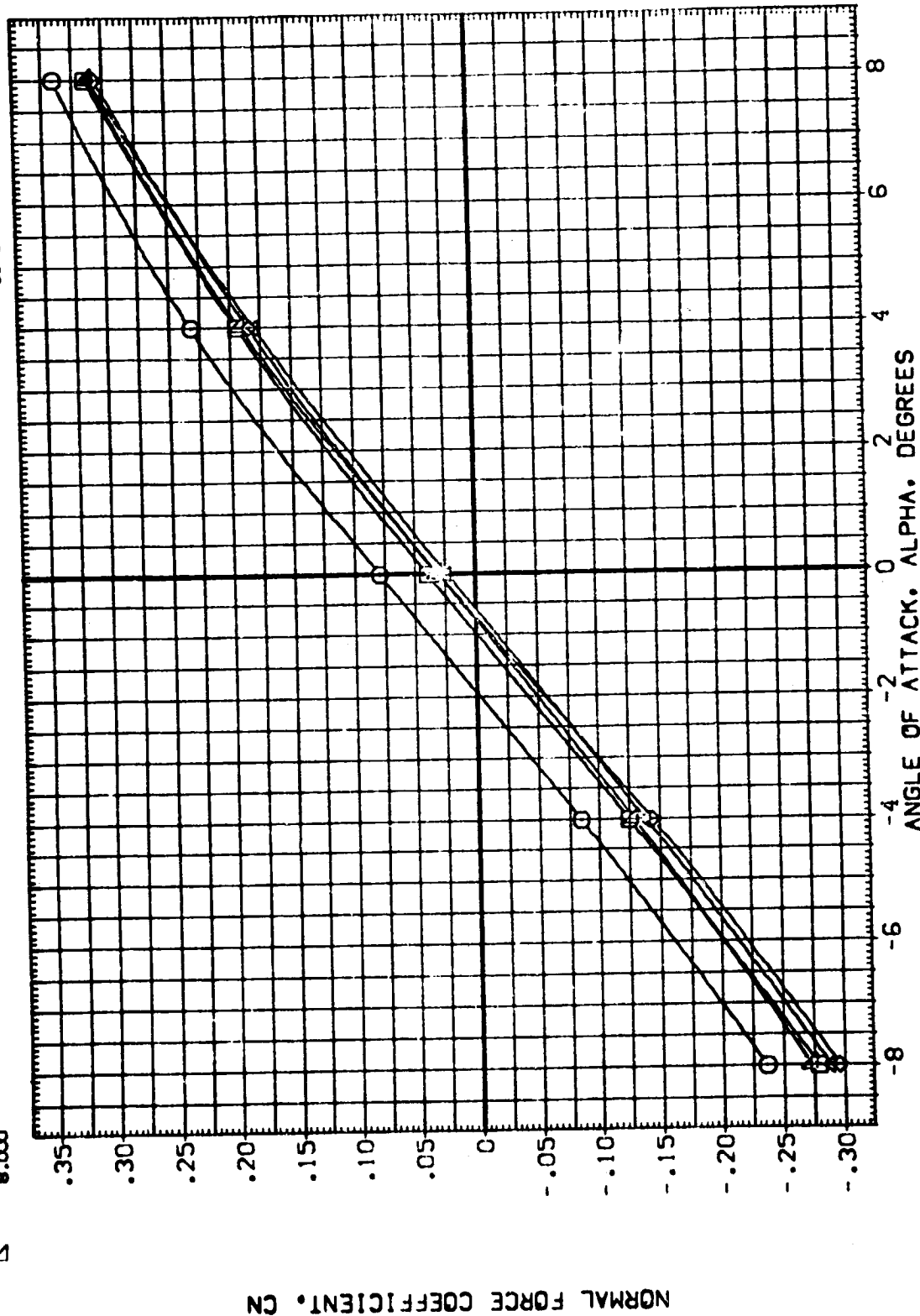


FIG. 46 LV (01 T12 S12 N25) , MACH = 1.40 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1051)

SYMBOL
▽◇□○

BETA
-8.000
-4.000
.000
4.000
8.000

MACH
RUDDER

PARAMETRIC VALUES
1.396
.000
ELEVON
SPDBRK

.000
.000

REFERENCE INFORMATION
SREF 2.4210 SQ.FT.
LREF 38.7090 IN.
BREF 38.7090 IN.
XMRP .0000 IN.
YMRP .0000 IN.
ZMRP 9.9530 IN.
SCALE .0330

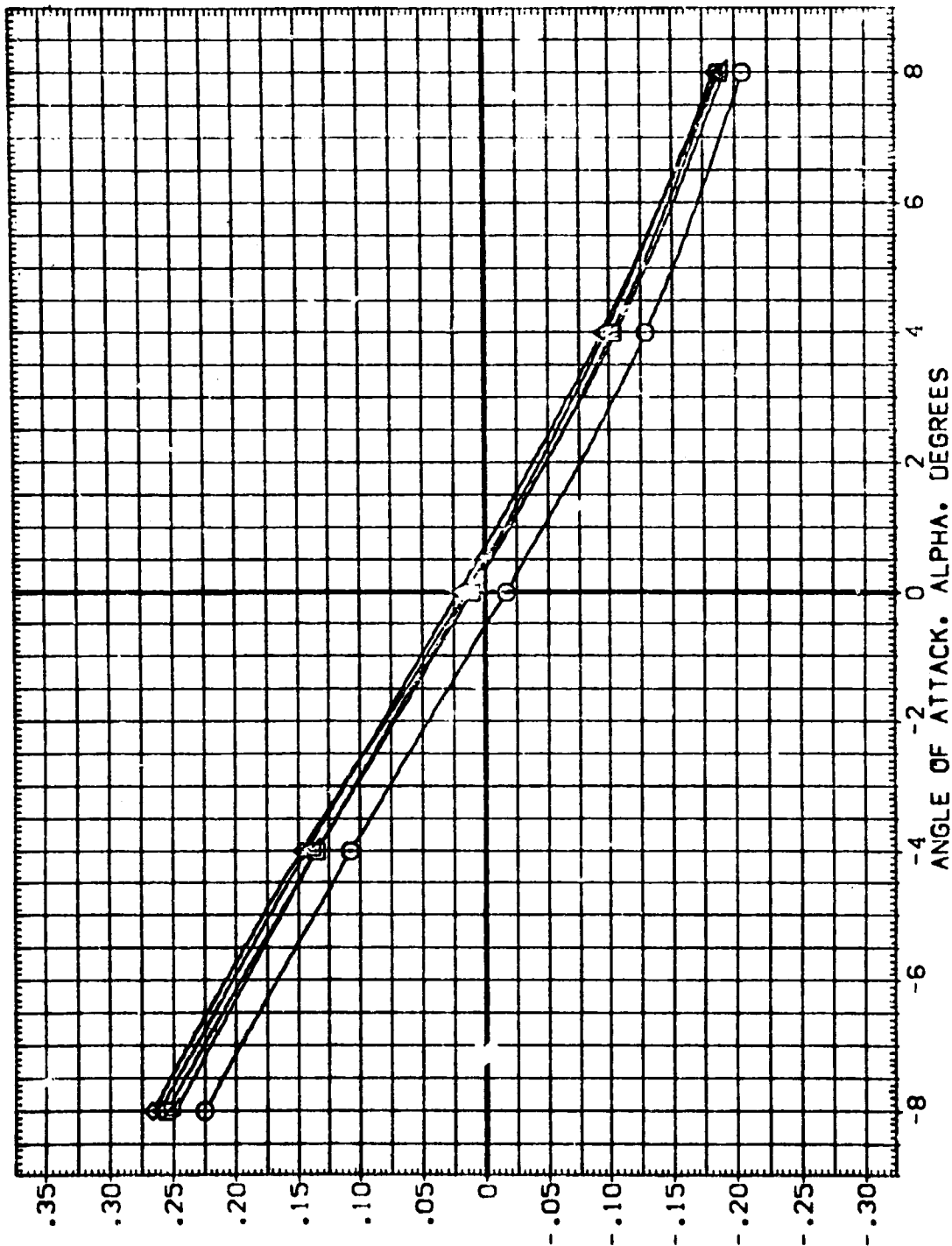


FIG. 46 LV (01 T12 S12 N25) , MACH = 1.40 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25

REFERENCE INFORMATION	
SREF	2.4210 SQ.FT.
LREF	38.7090 IN.
BREF	38.7090 IN.
XMRP	.0000 IN.
YMRP	.0000 IN.
ZMRP	9.9900 IN.
SCALE	.0300

PARAMETRIC VALUES
1.396 ELEVON
.000 SPDRBK

**MACH
FLUDER**

ETA
-8.000
-4.000
.000
4.000
8.000

SYNOPSIS

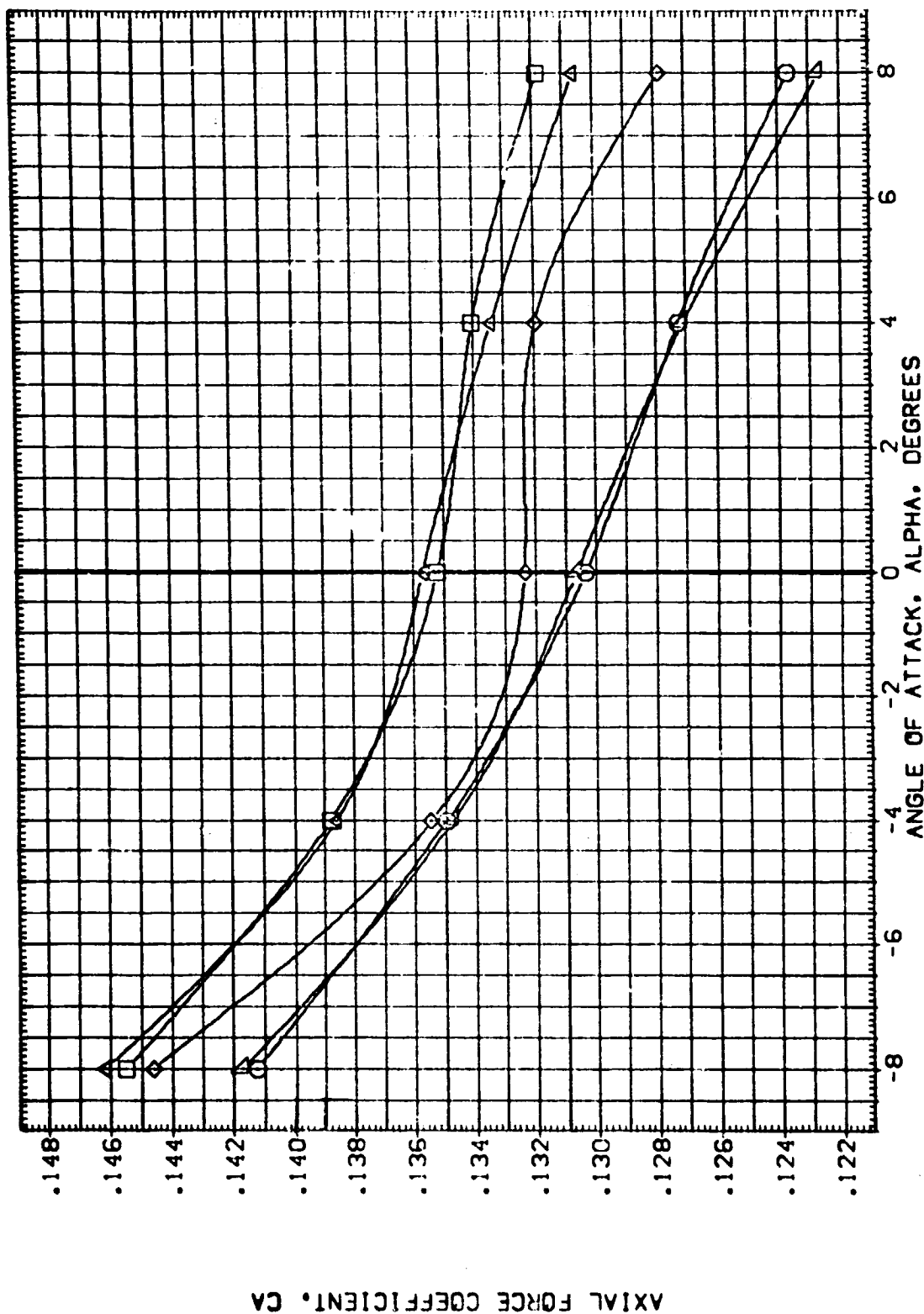


FIG. 46 LV (01 T12 S12 N25), MACH = 1.40 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (181051)

SYMBOL	BETA		PARAMETRIC VALUES		REFERENCE INFORMATION	
	-8.000	8.000	MACH	ELEVON	SREF	50.FT.
□	-4.000	4.000	1.396	.000	LREF	IN.
◇	0.000	0.000	RUDDER	SPDRK	BREF	IN.
△	0.000	0.000			YMRP	IN.
▽	0.000	0.000			ZMRP	IN.
					SCALE	.0300

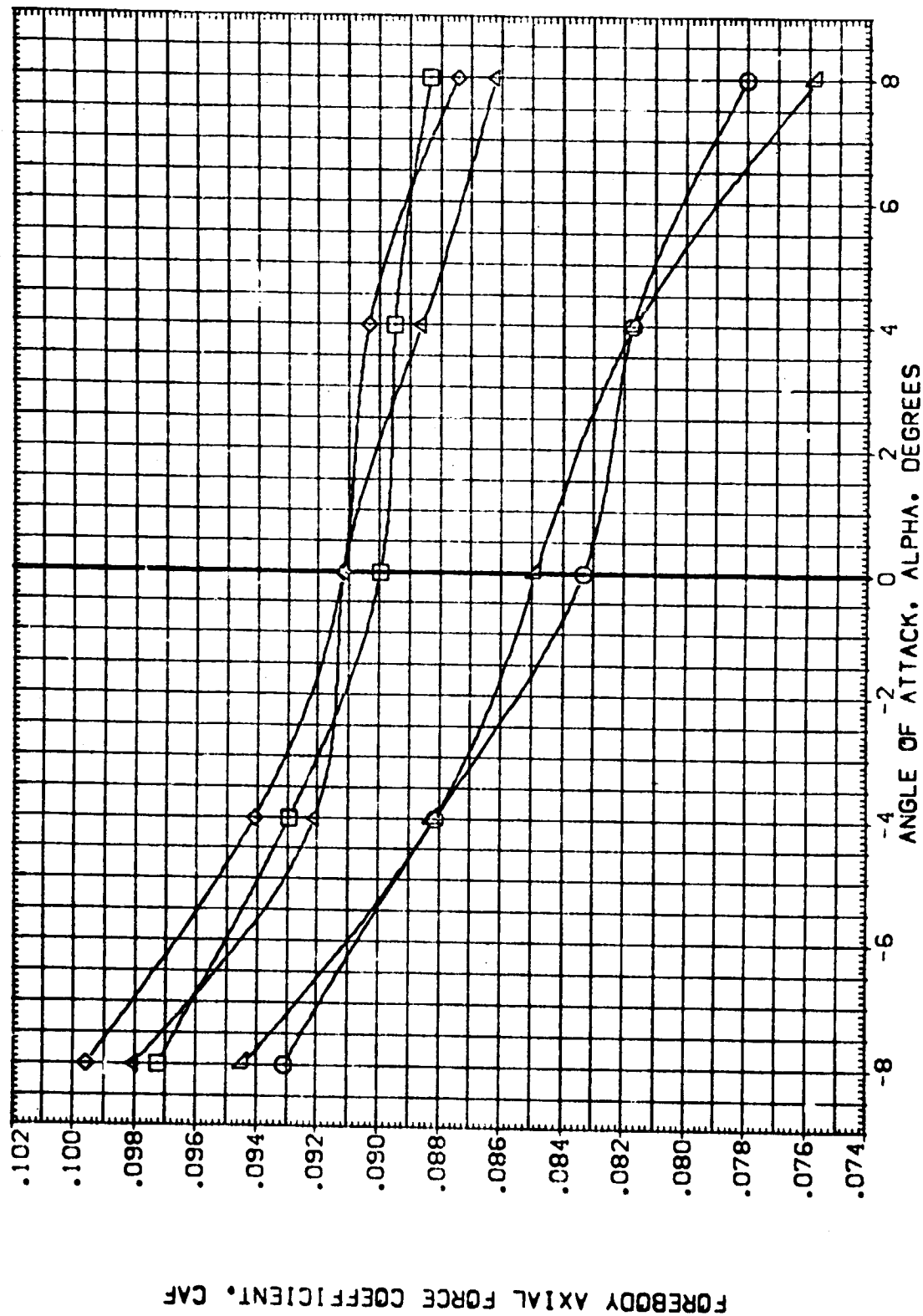


FIG. 46 LV (01 T12 S12 N25) • MACH = 1.40 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (IB1051)

SYMBOL
 ▽
 ◇
 □
 ○

BETA
 -8.000
 -4.000
 .000
 4.000
 8.000

MACH
 1.356

PARAMETRIC VALUES
 ELEVON .000
 SPOILER .000

REFERENCE INFORMATION
 SQ.FT.
 SREF 2.4210
 LREF 38.7090
 BREF 38.7090
 XMRP .0000
 YMRP .0000
 ZMRP 9.5900
 SCALE .0300

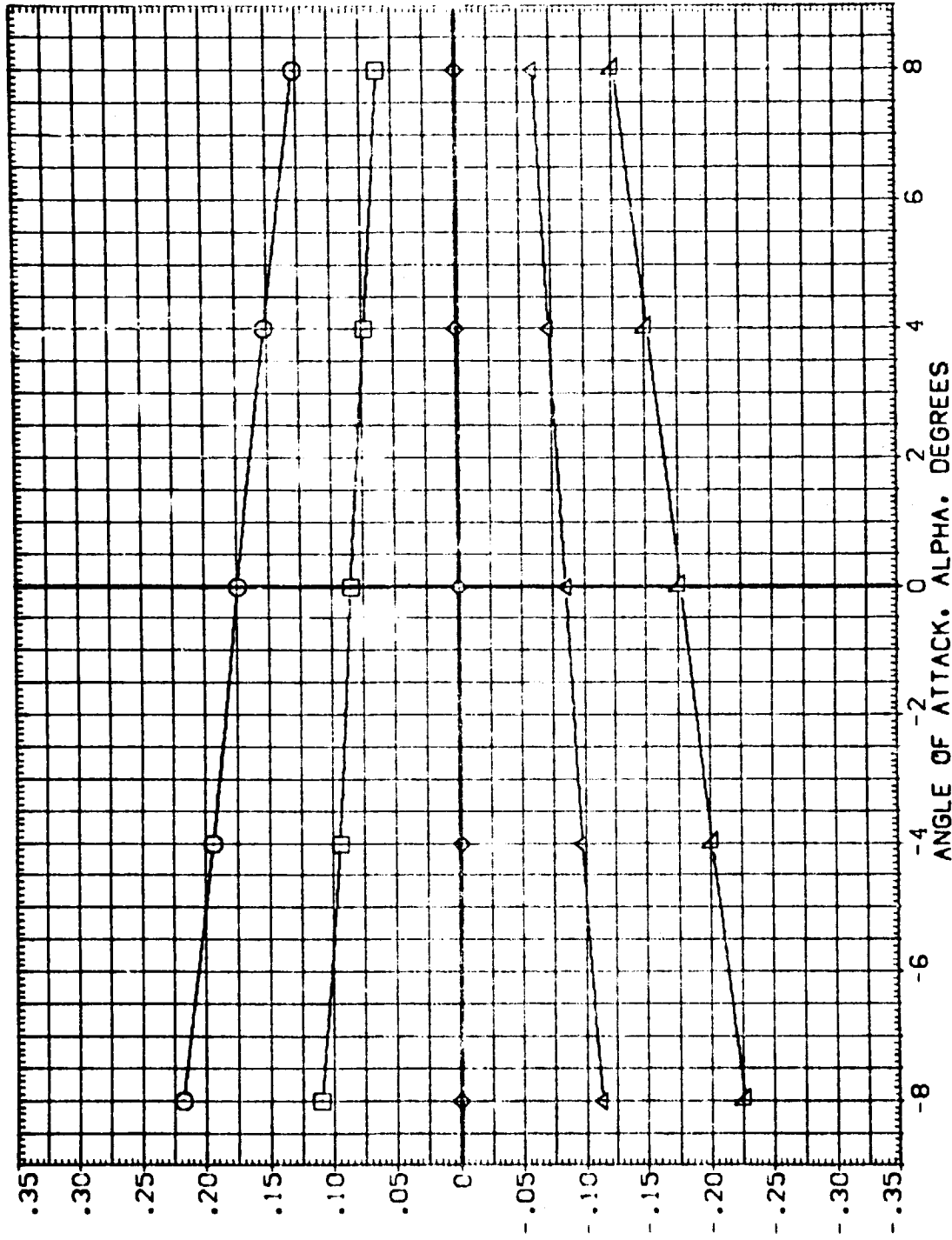


FIG. 46 LV (01 T12 S12 N25) , MACH = 1.40 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1051)

SYMBOL	BETA	PARAMETRIC VALUES		REFERENCE INFORMATION	
		MACH	ELEVON	SPEC	SQ.FT.
○	-8.000	1.396	.000	REF	2.4210
□	-4.000	.000	.000	REF	38.7090
◇	.000	.000	SPDRK	SPREF	38.7090
△	4.000			XMRP	.0000
▽	8.000			YMRP	9.9900
				ZMRP	.0000
				SCALE	.0300

YAWING MOMENT COEFFICIENT, CYN (BODY AXIS)

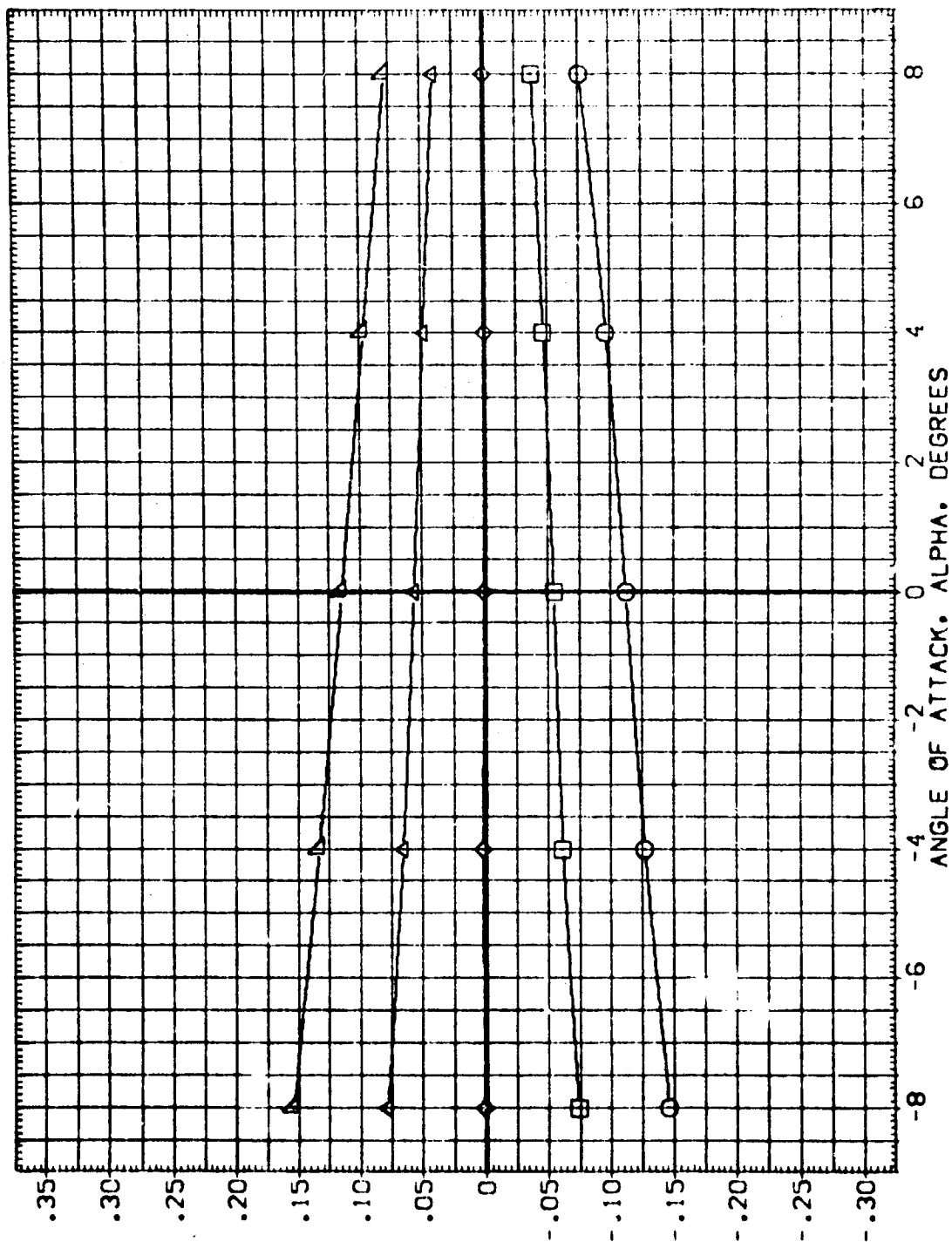


FIG. 46 LV (01 T12 S12 N25) • MACH = 1.40 (ORBITER BALANCE)

AMES 11-716 1A14A 01+T12+S12 N25 (ORBITER) (1B1051)

REFERENCE INFORMATION
 SREF 2.4210 SQ.FT.
 LREF 38.7090 IN.
 BREF 38.7090 IN.
 XMRP .0000 IN.
 YMRP .0000 IN.
 ZMRP 9.9900 IN.
 SCALE .0300

PARAMETRIC VALUES
 BETA -8.000
 MACH 1.386
 RUDDER .000
 ELEVON .000
 SPOBRK .000

SYMBOL
 ○ □ ◇ △ ▽

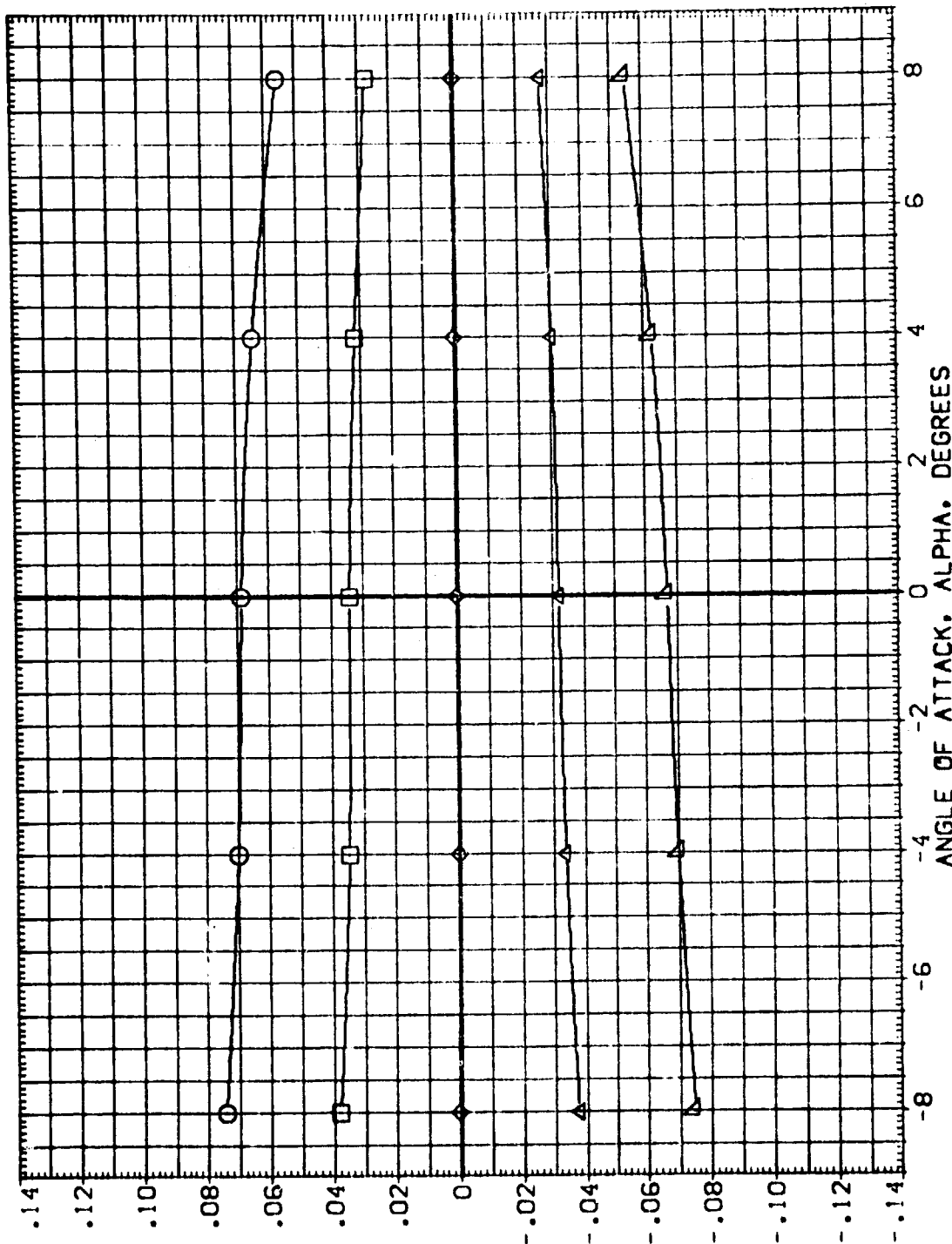


FIG. 46 LV (01 T12 S12 N25) , MACH = 1.40 (ORBITER BALANCE)

APPENDIX
TABULATED SOURCE DATA

Tabulations of plotted data are available on request from
Data Management Services.

DATE 18 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 1

AMES 11-716 1A14A 01-T12-S12N23-AT11 (TANK-SRM)

(081117) (12 NOV 73)

REFERENCE DATA

SREF = 2.4210 30.FT. XMRP = .0000 IN.
 LREF = 30.7000 IN. YMRP = .0000 IN.
 BREF = 30.7000 IN. ZMRP = 9.9900 IN.
 SCALE = .0000

PARAMETRIC DATA

BETA = .000 ELEVON = .000
 RUDDER = .000 SPDRBK = .000

RUN NO. 0/0 RN/L = 3.49 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CLM	CA	CAF	CY	CYN	CBL
.896	-8.610	.00000	-.30010	.00190	.20420	.07730	-.00320	.00100	.00010
.898	-4.440	.00000	-.19340	.01190	.19880	.06680	.00010	-.00040	-.00010
.898	-.430	.01000	-.11270	.01680	.19360	.08020	.00030	-.00100	-.00010
.898	3.750	.00000	-.01630	.03090	.19310	.08620	.00400	-.00230	-.00020
.898	8.120	.01000	.10240	.04240	.19340	.07670	.00140	-.00240	-.00060
GRADIENT	-.00002	-.00002	.02163	.00233	-.00045	-.00003	.00048	-.00023	-.00001

RUN NO. 0/0 RN/L = 2.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CLM	CA	CAF	CY	CYN	CBL
.977	-8.360	.00000	-.27420	-.03260	.23430	.09090	.00360	-.00130	.00040
.977	-4.170	.00000	-.16930	-.01230	.22930	.09790	.00690	-.00340	.00020
.977	-.080	.01000	-.08410	.01020	.23070	.10460	.00550	-.00340	.00000
.973	3.950	.00000	-.00680	.02630	.22640	.09960	.00830	-.00370	-.00010
.973	8.110	.01000	.11200	.03420	.22800	.09400	.00320	-.00450	-.00050
GRADIENT	.00001	.00001	.02001	.03476	-.00038	.00021	.00017	-.00004	-.00004

RUN NO. 0/0 RN/L = 2.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CLM	CA	CAF	CY	CYN	CBL
1.102	-8.440	.01000	-.29150	-.03260	.27430	.12650	.00300	-.00130	.00030
1.102	-4.230	.01000	-.18030	-.01130	.27220	.13510	.00470	-.00290	.00020
1.102	-.100	.01000	-.09100	.01480	.27130	.13950	.00360	-.00310	-.00010
1.102	4.010	.00000	-.00340	.03110	.26530	.13650	.00730	-.00330	-.00020
1.102	8.110	.00000	.10990	.03700	.26010	.12880	.00490	-.00140	-.00020
GRADIENT	-.00121	-.00149	.02149	.00315	-.00084	.00017	.00032	-.00005	-.00005

RUN NO. 0/0 RN/L = 2.74 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CLM	CA	CAF	CY	CYN	CBL
1.248	-8.450	.01000	-.31820	-.02180	.29930	.13790	.00390	-.00120	.00010
1.248	-4.160	.01000	-.19370	-.00240	.25790	.14630	.00510	-.00270	-.00020
1.248	-.110	.01000	-.10180	.02810	.25810	.15410	.00320	-.00230	-.00030
1.248	3.980	.01000	-.01840	.04740	.25540	.15010	.00610	-.00450	-.00050
1.248	8.030	.01000	.09210	.04740	.25090	.14170	.00460	-.00360	-.00030
GRADIENT	.00000	.00000	.02153	.00612	-.00031	.00046	.00012	-.00022	-.00004

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 OF POOR QUALITY

DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 2

AWES 11-716 1A14A 01+712+312N25+AT11 (TANK+SRM)

(R01118) (02 NOV 73)

REFERENCE DATA

BREF = 2.4210 36.FT. XMRP = .0000 IN.
 LREF = 36.7090 IN. YMRP = .0000 IN.
 BREF = 36.7090 IN. ZMRP = 9.9990 IN.
 SCALE = .0300

PARAMETRIC DATA

ALPHA = .000 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 41/ 0 RN/L = 3.49 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.898	-8.190	-51000	-13580	.0426	.21190	.08240	.16120	-.02570	-.01100
.898	-4.080	-51000	-13580	.0360	.20370	.08740	.08110	-.01560	-.00610
.898	.000	-52000	-11480	.01740	.19370	.08610	.00240	-.00130	-.00030
.898	4.110	-52000	-11580	.01850	.20090	.08830	-.07580	.01580	.00600
.898	8.180	-51000	-11240	.02040	.20790	.09100	-.15310	.02890	.01990
GRADIENT	-.03122	.00173	-.00148	-.00034	.00011	-.01916		.00383	.00148

RUN NO. 94/ 0 RN/L = 2.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.978	-8.180	-51000	-14390	.03640	.24820	.09870	.16380	-.03790	-.01150
.978	-4.090	-49000	-11000	.02020	.23700	.10100	.09820	-.02450	-.00620
.978	.010	-49000	-.09320	.01210	.22710	.10260	.00880	-.00450	-.00030
.978	4.070	-49000	-.09370	.00970	.23690	.11210	-.07530	.01790	.00380
.978	8.160	-50000	-10100	.01330	.24700	.11300	-.16010	.03370	.01130
GRADIENT	.00000	.00000	.00200	-.00129	-.00002	.00136	-.02102	.00520	.00147

RUN NO. 91/ 0 RN/L = 2.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
1.102	-8.230	-55000	-13870	.02560	.28600	.14070	.18960	-.03500	-.01360
1.102	-4.090	-55000	-11010	.01590	.27780	.14380	.09690	-.02170	-.00720
1.102	.000	-52000	-.09820	.01480	.27170	.14000	.00630	-.00360	-.00050
1.102	4.090	-53000	-.09150	.00570	.27600	.14150	-.07840	.01680	.00680
1.102	8.190	-53000	-.09640	.00640	.28410	.14630	-.16550	.03100	.01280
GRADIENT	.00000	.00000	.00227	-.00120	-.00022	.00028	-.02143	.00471	.00171

RUN NO. 90/ 0 RN/L = 2.74 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
1.252	-8.210	-55000	-16320	.04850	.27930	.15420	.17890	-.02650	-.01360
1.252	-4.110	-52000	-12470	.03170	.26860	.15560	.09300	-.01660	-.00680
1.252	.000	-51000	-10850	.02590	.25310	.15390	.00370	-.00500	-.00060
1.252	4.100	-52000	-10350	.01920	.26520	.15300	-.07310	.01040	.00610
1.252	8.210	-53000	-10950	.02030	.27820	.16030	-.15530	.02230	.01250
GRADIENT	.00000	.00000	.00256	-.00152	-.00041	.00032	-.00720	.00229	.00157



DATE 10 JAN 75

TABULATED SOURCE DATA - IAI14A

PAGE 3

AWES 11-716 IAI14A 01+T12+SIZE23+AT10 (COMPOSITE)

(RB1126) (04 DEC 73)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XREF = .0000 IN.
 LREF = 30.7000 IN. YREF = .0000 IN.
 BREF = 30.7000 IN. ZREF = 9.9900 IN.
 SCALE = .0300

ALPHA = .000 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

PARAMETRIC DATA

RUN NO. 36/ 0 RN/L = 2.75 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
1.246	-10.000	-7.0000	-.06420	.01120	.43040	.24740	.44750	-.17730	-.08350
1.246	-7.960	-.74000	-.04940	.00550	.43960	.23660	.39520	-.11410	.05330
1.246	-6.020	-.73000	-.05730	.01540	.43040	.23570	.26760	-.10760	.05000
1.246	-3.950	-.71000	-.04660	.01100	.42360	.23320	.14200	-.03350	.02590
1.246	-2.040	-.70000	-.04150	.00810	.41760	.23700	.12670	-.06030	.03150
1.246	.010	-.70000	-.04640	.01290	.41140	.26370	.02390	-.01530	.00610
	GRADIENT	.00249	.00022	.00050	-.00308	.00266	-.03007	.00980	-.00509

AWES 11-716 IAI14A 01+T12+SIZE23+AT11 (TANK+SRM)

(RB1130) (12 NOV 73)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XREF = .0000 IN.
 LREF = 30.7000 IN. YREF = .0000 IN.
 BREF = 30.7000 IN. ZREF = 9.9900 IN.
 SCALE = .0300

BETA = .000 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

PARAMETRIC DATA

RUN NO. 62/ 0 RN/L = 3.47 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	MACH	BETA	CN	CLM	CA	CAF	CY	CYN	CBL
-.930	.972	.01000	-.10100	.01440	.22750	.09910	-.00030	-.00050	.00000
-.940	1.002	.01000	-.08050	.00440	.24780	.11140	-.00250	.00040	.00010
-.950	1.025	.00000	-.09020	.00370	.25570	.11560	.00320	-.00170	.00000
	GRADIENT	-.17933	.22999	-.20840	.33923	.31621	.05913	-.02003	.00017

AWES 11-716 1A14A 01+112+512+25+AT10 (COMPOSITE)

(R01131) (02 JAN 74)

REFERENCE DATA

BREF = 2.4210 30. FT. XREF = .0000 IN.
 LREF = 38.7090 IN. YREF = .0000 IN.
 BREF = 38.7090 IN. ZREF = 9.9900 IN.
 SCALE = .0300

MACH = .901 ELEVON = .000
 RUDDER = .000 SPDRK = .000

PARAMETRIC DATA

RUN NO. 0/ 0 RM/L = 3.49 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-2.700	-9.990	-2.87000	-1.18900	.05650	.00000	.00000	.40790	-.18760	.09730
-2.700	-7.990	-2.89000	-1.19990	.06090	.30800	.13590	.33870	-.15570	.04680
-2.700	-5.970	-2.87000	-1.17890	.05760	.30530	.13920	.26110	-.12600	.03700
-2.700	-3.980	-2.96000	-1.18680	.05800	.29930	.13750	.17480	-.08840	.02480
-2.700	-1.990	-2.84000	-1.18410	.06030	.29760	.14250	.09120	-.04680	.01130
-2.700	.010	-2.84000	-1.19160	.06690	.29610	.13340	.00070	-.00110	-.00010
-2.700	2.040	-2.84000	-1.18640	.06110	.29810	.13350	-.09360	.04670	-.01310
-2.700	4.050	-2.86000	-1.19030	.06010	.30040	.15130	-.18590	.09340	-.02660
-2.700	6.060	-2.87000	-1.19340	.05920	.30440	.15380	-.28130	.13840	-.04110
-2.700	8.070	-2.87000	-1.19440	.06190	.29630	.14210	-.35500	.17410	-.05250
-2.700	10.090	-2.83000	-1.17840	.05710	.00000	.00000	-.41680	.20450	-.06260
GRADIENT		-.00001	-.00048	.00025	.00014	.00103	-.04511	.02275	-.00632

RUN NO. 0/ 0 RM/L = 3.49 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-10.000	-.69000	-.08130	.01550	.31050	.13010	.43170	-.18980	.06170
.000	-7.980	-.68000	-.06870	.00940	.30760	.13690	.35050	-.16150	.03310
.000	-5.980	-.67000	-.06470	.00910	.30050	.13760	.27060	-.13000	.04090
.000	-3.970	-.66000	-.05450	.00140	.29550	.14090	.18650	-.09360	.02870
.000	-1.980	-.66000	-.05490	.00200	.28940	.14090	.09470	-.04830	.01310
.000	.010	-.66000	-.05320	-.00190	.28990	.12960	.01270	-.00880	.00290
.000	2.050	-.67000	-.05970	.00070	.29140	.13500	-.09730	.04840	-.01510
.000	4.050	-.68000	-.06290	.00290	.23770	.15140	-.18470	.09570	-.02740
.000	6.060	-.69000	-.07500	.01110	.30120	.15230	-.27510	.13370	-.04230
.000	8.080	-.69000	-.07760	.01420	.30620	.15230	-.37530	.18120	-.05890
.000	10.120	-.69000	-.08130	.01450	.30010	.14420	-.44110	.20920	-.06750
GRADIENT		-.00250	-.00108	.00009	.00032	.00076	-.04656	.02317	-.00700



DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 5

AMES 11-716 1A14A 01+T12+S12N25+AT10 (COMPOSITE)

(R81131) (02 JAN 74)

REFERENCE DATA

SREF = 2.4810 50-FT. XMRP = .0000 IN.
 LREF = 30.7999 IN. YMRP = .0000 IN.
 BREF = 30.7999 IN. ZMRP = 9.9999 IN.
 SCALE = .0399

MACH = .901 ELEVON = .000
 RUDDER = .030 SPOBRK = .000

PARAMETRIC DATA

RUN NO. 9/ 0 RV/L = 3.49 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
2.000	-10.000	2.06000	.06060	-.03100	.30720	.13980	.43400	-.19390	.06800
2.000	-5.980	1.96000	.06400	-.04910	.29390	.13880	.27800	-.13370	.04600
2.000	-3.980	1.97000	.10120	-.06180	.28790	.13980	.18560	-.09260	.03000
2.000	-1.990	1.98000	.10370	-.06450	.28160	.13890	.09590	-.04970	.01600
2.000	.060	1.98000	.10580	-.06690	.28170	.12840	-.00250	-.03140	-.00020
2.000	2.040	1.97000	.09770	-.06330	.28260	.13030	-.09520	.04390	-.01440
2.000	4.050	2.05000	.09160	-.05940	.28730	.14270	-.19180	.09540	-.03280
2.000	6.070	2.05000	.08680	-.05440	.29230	.14400	-.27840	.13430	-.04680
2.000	8.090	2.04000	.07640	-.04380	.29780	.14840	-.37000	.17690	-.06220
2.000	10.110	2.02000	.06160	-.03690	.30450	.14800	-.45720	.21310	-.07450
GRADIENT		.02746	-.00125	.00030	-.00001	-.00014	-.04684	.02337	-.00777

RUN NO. 9/ 0 RV/L = 3.48 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-10.000	4.11000	.17080	-.07280	.29920	.13160	.43490	-.19040	.07160
4.000	-7.960	4.13000	.18610	-.08290	.29380	.13290	.36750	-.15900	.05980
4.000	-5.960	4.15000	.20130	-.09180	.28690	.13420	.26560	-.12320	.04420
4.000	-3.960	4.16000	.20140	-.09160	.28070	.13470	.16800	-.09300	.03290
4.000	-1.980	4.04000	.20780	-.09640	.27900	.13750	.09440	-.04810	.01580
4.000	.030	4.05000	.20470	-.09420	.27940	.12450	.00340	-.00360	.00060
4.000	2.050	4.03000	.20800	-.09710	.28080	.11980	-.09900	.04780	-.01660
4.000	4.050	4.03000	.20090	-.09550	.28290	.14010	-.18820	.09150	-.03320
4.000	6.070	4.02000	.19210	-.08930	.28850	.14200	-.27870	.13340	-.04960
4.000	8.100	4.01000	.18990	-.08570	.29350	.14150	-.36250	.16910	-.06280
4.000	10.130	4.00000	.18210	-.08160	.29900	.14790	-.44550	.20340	-.07650
GRADIENT		-.01243	-.00094	-.00042	.00001	.00011	-.04795	.02319	-.00821

ORIGINAL PAGE IS
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DATE 10 JAN 79

TABULATED SOURCE DATA - 1A14A

PAGE 0

AWES 11-716 1A14A 04+712+312+25+AT10 (COMPOSITE)

(081131) (08 JAN 74)

REFERENCE DATA

SRFP = 2.4210 30.FT. XMRP = .0000 IN.
 LREF = 10.7090 IN. YMRP = .0000 IN.
 BRFP = 10.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = .901 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

RUN NO. 0/0 RN/L = 3.48 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLW	CA	CAF	CT	CYN	CBL
0.000	-9.980	0.00000	.28730	-.11590	.29470	.12590	.44330	-.19020	.07600
0.000	-7.980	5.93000	.29840	-.18000	.28930	.12940	.33200	-.15640	.06310
0.000	-5.980	5.96000	.31140	-.15430	.28370	.13330	.27200	-.12690	.04970
0.000	-3.970	5.95000	.31400	-.12610	.28020	.13550	.18320	-.09070	.03450
0.000	-1.960	5.94000	.30760	-.12190	.27740	.13470	.09220	-.04640	.01640
0.000	.040	5.94000	.30020	-.11830	.27430	.12930	.00380	-.00460	.00050
0.000	2.060	5.93000	.29840	-.11760	.28140	.12100	-.09840	.04630	-.01800
0.000	4.070	5.99000	.31200	-.12760	.27990	.13490	-.18660	.08950	-.03470
0.000	6.100	5.99000	.31170	-.12760	.28660	.13580	-.27300	.12600	-.04910
0.000	8.130	6.02000	.30640	-.12370	.29000	.14020	-.36200	.16350	-.06600
0.000	10.150	5.99000	.29280	-.11760	.29320	.14050	-.44460	.19830	-.07970
GRADIENT		.00100	-.00067	.00006	.00017	-.00074	-.04660	.02234	-.00864

RUN NO. 0/0 RN/L = 3.48 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLW	CA	CAF	CT	CYN	CBL
0.000	-9.970	0.00000	.41270	-.17340	.28450	.11870	.43270	-.17870	.07400
0.000	-7.950	0.00000	.41200	-.16970	.27760	.11920	.34710	-.15040	.05150
0.000	-5.950	7.98000	.41570	-.16720	.27470	.12420	.26950	-.12220	.03090
0.000	-3.970	7.94000	.41760	-.16770	.27120	.12620	.18210	-.08430	.01400
0.000	-1.980	7.94000	.40410	-.15520	.27180	.12790	.08660	-.04230	.01560
0.000	.030	7.89000	.39820	-.14620	.27250	.12020	-.00290	-.00250	-.00100
0.000	2.060	7.94000	.41770	-.16570	.27560	.11970	-.10430	.04700	-.01900
0.000	4.090	8.01000	.41680	-.16660	.27530	.12570	-.19580	.08970	-.03660
0.000	6.120	8.00000	.41990	-.17000	.27770	.12730	-.27710	.12400	-.05070
0.000	8.120	7.98000	.41450	-.17220	.27980	.12530	-.35780	.15530	-.06480
0.000	10.200	7.95000	.41110	-.17570	.28350	.12930	-.45440	.19290	-.07870
GRADIENT		.00068	.00039	-.00042	.00065	-.00045	-.04707	.02169	-.00877

DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 7

AMES 11-716 1A14A 01-112-S12H23-AT10 (COMPOSITE)

(RB1131) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 30.FT. XMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 BREF = 30.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

MACH = .001 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

PARAMETRIC DATA

RUN NO. 0/0 RW/L = 3.50 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
10.000	-9.930	9.99000	.53140	-.22000	.28230	.11710	.42420	-.17380	.07400
10.000	-7.910	10.01000	.52790	-.21250	.27810	.11720	.33800	-.14480	.06280
10.000	-5.920	9.92000	.53510	-.21240	.27580	.11900	.24970	-.11030	.06730
10.000	-3.950	9.94000	.53090	-.20370	.27540	.12040	.16940	-.07650	.03290
10.000	-1.960	9.94000	.52520	-.19960	.27350	.12010	.08130	-.03830	.01390
10.000	.040	9.88000	.51730	-.19180	.26930	.12220	-.00330	-.00320	.00040
10.000	2.070	9.96000	.52460	-.20170	.27160	.12080	-.08120	.03090	-.01470
10.000	4.110	9.99000	.52300	-.20390	.27420	.12210	-.17910	.07740	-.03400
10.000	6.130	9.98000	.53240	-.21430	.27680	.12660	-.26710	.11600	-.09070
10.000	8.170	10.03000	.53060	-.21320	.27730	.12810	-.34910	.14740	-.06390
10.000	10.230	10.05000	.53270	-.22360	.27920	.12180	-.43820	.17750	-.07810
GRADIENT		.00001	-.00081	-.00013	-.00021	.00020	-.04266	.01871	-.00816

AMES 11-716 1A14A 01-112-S12H23-AT10 (COMPOSITE)

(RB1132) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 30.FT. XMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 BREF = 30.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

MACH = 1.100 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

PARAMETRIC DATA

RUN NO. 0/0 RW/L = 2.98 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-8.700	-10.000	-2.92000	-.19130	.06600	.00000	.00000	.41830	-.17820	.06930
-8.700	-6.000	-2.93000	-.19880	.07070	.43610	.23500	.35770	-.15550	.05930
-8.700	-5.970	-2.93000	-.20350	.07360	.43570	.24290	.25370	-.11240	.04190
-8.700	-3.960	-2.91000	-.20640	.08370	.43150	.24100	.16360	-.07220	.02600
-8.700	-2.000	-2.91000	-.21050	.08540	.42770	.24200	.09390	-.04480	.01580
-8.700	.020	-2.91000	-.21790	.09350	.42520	.24000	.02240	-.01360	.00590
-8.700	2.050	-2.91000	-.21010	.08760	.42630	.23750	-.07980	.03360	-.01140
-8.700	4.080	-2.92000	-.20820	.08190	.43060	.23940	-.19580	.09290	-.03230
-8.700	6.070	-2.93000	-.20560	.07700	.43200	.24050	-.26150	.11670	-.04250
-8.700	8.110	-2.92000	-.19520	.07050	.42000	.23590	-.36440	.16900	-.06180
-8.700	10.100	-2.90000	-.18770	.06680	.40000	.20000	-.42290	.19620	-.07370
GRADIENT		-.00100	-.00010	-.00026	-.00015	-.00036	-.04436	.02042	-.00715

ORIGINAL PAGE IS
OF POOR QUALITY

(081132) (02 JAN 74)

AMES 11-716 TAI14A ON-T12-S12M3-AT10 (COMPOSITE)

REFERENCE DATA

SREF = 2.4210 30. FT. YMRP = .0000 IN.
 LREF = 38.7390 IN. YMRP = .0000 IN.
 BREF = 38.7390 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.100 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

RUN NO. 0/ 0 RN/L = 2.98 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-10.040	-.75000	-.07190	.01640	.44000	.23210	.46190	-.19270	.08410
.000	-8.040	-.74000	-.07090	.01980	.43000	.23600	.36200	-.19020	.06390
.000	-5.990	-.72000	-.06780	.02260	.43370	.24110	.28150	-.11290	.07710
.000	-3.980	-.71000	-.06390	.02610	.43100	.24360	.17260	-.07810	.03180
.000	-2.010	-.70000	-.07100	.03300	.42450	.24260	.08200	-.03780	.01410
.000	.040	-.69000	-.07360	.03790	.42020	.24180	-.00230	-.00040	-.00040
.000	2.030	-.69000	-.06940	.03350	.42360	.24000	-.01700	.03970	-.01950
.000	4.060	-.71000	-.06910	.02970	.42680	.24400	-.18330	.06630	-.03480
.000	6.080	-.72000	-.07120	.02750	.42980	.24850	-.28370	.13080	-.05230
.000	8.100	-.73000	-.07340	.02580	.43450	.25270	-.37400	.16190	-.06640
.000	10.160	-.74000	-.07620	.02220	.42910	.24360	-.45430	.19700	-.07950
GRADIENT		.00049	-.00024	.00038	-.00046	-.00009	-.04380	.02021	-.00810

RUN NO. 0/ 0 RN/L = 2.98 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-10.000	2.03000	.07670	-.03510	.43420	.23010	.42840	-.17260	.07850
.000	-8.030	2.06000	.06940	-.03750	.43320	.23260	.36820	-.15690	.06940
.000	-5.990	2.08000	.10120	-.04120	.43050	.23670	.27790	-.12230	.03510
.000	-4.010	1.94000	.09560	-.03780	.42380	.24240	.17900	-.07700	.03340
.000	-2.000	1.95000	.09540	-.03610	.41500	.24110	.10060	-.04860	.02100
.000	.040	1.95000	.08990	-.03210	.40990	.23690	-.00750	.00290	-.00210
.000	2.030	1.93000	.08810	-.03500	.41450	.23660	-.08610	.03880	-.01550
.000	4.070	1.93000	.09200	-.04060	.41930	.23430	-.18070	.08210	-.03430
.000	6.100	1.96000	.08660	-.03680	.42360	.23590	-.27340	.12260	-.05330
.000	8.100	1.95000	.08400	-.03720	.42550	.24360	-.36410	.16100	-.06990
.000	10.140	1.94000	.07860	-.03750	.42680	.24330	-.45480	.19460	-.08370
GRADIENT		-.00198	-.00072	-.00022	-.00045	-.00103	-.04449	.02009	-.00852



DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 9

AMES 11-716 1A14A CH+T12+312N6+AT10 (COMPOSITE)

(R01132) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
LREF = 30.7000 IN. YMRP = .0000 IN.
BREF = 30.7000 IN. ZMRP = 9.9900 IN.
SCALE = .0300

MACH = 1.100 ELEVON = .000
RUDDER = .000 SPOBRK = .000

PARAMETRIC DATA

RUN NO. 0/0 RN/L = 2.90 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-9.990	3.97000	.19050	-.07300	.42780	.22230	.43750	-.17760	.08070
4.000	-8.000	3.99000	.19860	-.07660	.42490	.22370	.34370	-.14280	.06840
4.000	-6.000	3.97000	.21400	-.08750	.41940	.23070	.26040	-.10950	.05210
4.000	-3.990	3.93000	.21390	-.08610	.41480	.23440	.17030	-.07350	.03370
4.000	-2.000	3.93000	.21470	-.08640	.40920	.23570	.08510	-.03700	.01540
4.000	.040	3.94000	.21440	-.08560	.40710	.23650	-.01150	.00360	-.00200
4.000	2.050	4.03000	.21010	-.08910	.40860	.23060	-.09450	.04150	-.01930
4.000	4.070	4.02000	.21480	-.08970	.41020	.23250	-.10540	.08000	-.03690
4.000	6.080	4.01000	.21150	-.08740	.41370	.23400	-.26600	.11550	-.03340
4.000	8.110	4.06000	.21090	-.08570	.41690	.23570	-.37540	.16200	-.07400
4.000	10.160	4.05000	.20750	-.08550	.41990	.23490	-.45610	.19120	-.06840
4.000	GRADIENT	.01389	.00026	-.00049	-.00040	-.00014	-.04368	.01911	-.00872

RUN NO. 0/0 RN/L = 2.90 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
6.000	-9.980	5.98000	.30150	-.12000	.42040	.21820	.44190	-.17770	.08440
6.000	-7.380	5.96000	.31890	-.12900	.41570	.21950	.33820	-.14490	.06830
6.000	-5.960	5.94000	.32620	-.12910	.41320	.22380	.25030	-.10410	.05020
6.000	-3.990	5.96000	.33600	-.13280	.40910	.22690	.17870	-.07730	.03540
6.000	-1.970	5.97000	.33900	-.13300	.40550	.22740	.08890	-.04040	.01640
6.000	.030	5.98000	.33850	-.13070	.40390	.22850	.00310	-.00230	.00090
6.000	2.030	5.97000	.33750	-.13190	.40460	.22610	-.07700	.03050	-.01480
6.000	4.080	5.95000	.33360	-.13490	.40450	.22410	-.17690	.07590	-.03840
6.000	6.100	5.94000	.32810	-.13450	.40650	.22440	-.23960	.11040	-.05340
6.000	8.130	5.92000	.32420	-.13670	.40860	.22290	-.34960	.14350	-.06780
6.000	10.150	5.90000	.31350	-.13550	.41110	.22280	-.44080	.17420	-.08340
6.000	GRADIENT	-.00100	-.00031	-.00016	-.00050	-.00034	-.04356	.01874	-.00868

AMES 11-716 1A16A Q10112-S12N23-A110 (COMPOSITE) (RB1132) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 90.FT. XMRP = .0000 IN.
 LREF = 36.7390 IN. YMRP = .0000 IN.
 BREF = 36.7390 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.100 ELEVON = .000
 RUDDER = .000 SPDRBK = .000

RUN NO. Q/Q RN/L = 2.98 GRADIENT INTERVAL = -9.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	-9.930	0.00000	.42710	-.17970	.41000	.21280	.42880	-.16400	.07670
0.000	-7.950	0.11000	.43350	-.17950	.41300	.21590	.34080	-.13500	.06480
0.000	-5.940	0.13000	.44280	-.17870	.40800	.21940	.24470	-.09700	.04870
0.000	-3.970	0.90000	.44550	-.16860	.40940	.26220	.16840	-.07000	.03370
0.000	-1.970	0.01000	.45400	-.17680	.40430	.22090	.08790	-.04000	.01710
0.000	.000	0.93000	.45330	-.17720	.40150	.22440	-.00250	-.00120	-.00110
0.000	2.000	0.97000	.45160	-.17810	.40160	.21920	-.08770	.03760	-.01870
0.000	4.080	0.99000	.44310	-.18100	.40360	.21870	-.16200	.06720	-.03280
0.000	6.110	0.92000	.44310	-.18800	.40450	.21820	-.25560	.10270	-.09070
0.000	8.160	0.91000	.44150	-.18990	.40440	.21760	-.34520	.13470	-.06560
0.000	10.180	0.06000	.44290	-.19230	.40320	.21280	-.43690	.16800	-.08070
0.000	GRADIENT	-.00499	-.00016	-.00130	-.00071	-.00440	-.04137	.01756	-.00629

RUN NO. Q/Q RN/L = 3.00 GRADIENT INTERVAL = -9.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
10.000	-9.930	10.04000	.55730	-.23170	.40660	.20370	.41270	-.14810	.07230
10.000	-7.950	9.93000	.55830	-.22000	.40770	.20770	.32890	-.12400	.06180
10.000	-5.920	9.96000	.56190	-.22760	.40430	.20940	.23300	-.09920	.04700
10.000	-3.970	9.96000	.55160	-.21600	.40320	.21290	.16250	-.06500	.03360
10.000	-1.970	9.95000	.54770	-.21890	.39450	.21200	.07310	-.03040	.01330
10.000	.000	9.95000	.54710	-.21840	.39300	.21460	-.01160	.00660	-.00100
10.000	2.060	9.95000	.54700	-.21900	.39570	.21260	-.09900	.04330	-.01780
10.000	4.080	9.96000	.54700	-.21490	.40000	.21360	-.17100	.07070	-.03430
10.000	6.140	10.04000	.55470	-.22230	.40140	.20990	-.25890	.10390	-.05110
10.000	8.160	10.03000	.56260	-.23320	.39940	.20810	-.34270	.12940	-.06410
10.000	10.230	10.07000	.57020	-.24500	.39670	.20360	-.44410	.16460	-.08140
10.000	GRADIENT	.00000	-.00049	.00010	-.00025	.00010	-.04176	.01714	-.00639



DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 11

AWES 11-716 1A14A 01+112+812N2+AT10 (COMPOSITE)

(R01133) (02 JAN 74)

REFERENCE DATA

SREF = 2.4810 54.FT. XMRP = .0000 IN.
 LREF = 30.7000 IN. YMRP = .0000 IN.
 BREF = 30.7000 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

WACH = 1.248 ELEVON = .000
 RUDDER = .000 SPDRK = .000

PARAMETRIC DATA

RUN NO. 0/0 RN/L = 2.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-2.700	-19.040	-2.87000	-1.8430	.06070	.00940	.22330	.42590	-1.17730	.06990
-2.700	-8.030	-2.87000	-1.17410	.05220	.43320	.23230	.36560	-1.14770	.06310
-2.700	-5.960	-2.87000	-1.8540	.06130	.43020	.23300	.18970	-.06510	.02790
-2.700	-3.920	-2.86000	-1.8180	.06010	.42243	.26200	.09250	-.02270	.00760
-2.700	-2.000	-2.86000	-1.8630	.06410	.41910	.26280	.10180	-.04770	.01740
-2.700	.020	-2.85000	-1.17820	.06060	.41450	.26010	-.02160	.01720	-.00540
-2.700	2.020	-2.85000	-1.17750	.05830	.41710	.25950	-.02620	.02370	-.01140
-2.700	4.100	-2.77000	-1.17270	.05440	.42070	.26350	-.11990	.09170	-.03340
-2.700	6.120	-2.79000	-1.19040	.06680	.42080	.26590	-.29360	.13060	-.05240
-2.700	8.140	-2.79000	-1.8650	.06230	.41370	.25700	-.34340	.13200	-.05940
-2.700	10.100	-2.77000	-1.17800	.05790	.39510	.25370	-.40100	.17750	-.06440
GRADIENT		.00955	.00135	-.00087	-.00026	.00019	-.03659	.01505	-.00555

RUN NO. 0/0 RN/L = 2.74 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-10.520	-1.76000	-0.7130	.01150	.42550	.24050	.46140	-1.18590	.08460
.000	-8.420	-1.73000	-0.4640	.00220	.43600	.25460	.36870	-1.16000	.06010
.000	-6.290	-1.73000	-0.5740	.01310	.43130	.25330	.27160	-1.10980	.03770
.000	-4.140	-1.71000	-0.4620	.01050	.42340	.25430	.13860	-.05010	.02140
.000	-2.080	-1.70000	-0.3690	.00310	.41850	.25890	.12140	-.06030	.02660
.000	.030	-1.70000	-0.4300	.01050	.41150	.26330	.01140	-.00770	.00430
.000	2.160	-1.70000	-0.4680	.01120	.41400	.26130	-.10960	.05090	-.02350
.000	4.270	-1.71000	-0.4570	.00840	.42020	.26320	-.20250	.09060	-.03480
.000	6.350	-1.73000	-0.5340	.01170	.42330	.26430	-.26890	.11740	-.05750
.000	8.130	-1.73000	-0.5370	.00900	.42930	.26660	-.35040	.14330	-.05790
.000	10.110	-1.75000	-0.6870	.01310	.42060	.26160	-.43500	.18200	-.07160
GRADIENT		-.00001	-.00043	.00009	-.00051	.00096	-.04341	.01867	-.00775

ORIGINAL PAGE IS
OF POOR QUALITY

AWES 11-716 1A14A 01+712+312+5+110 (COMPOSITE)

(RB1133) (02 JAN 74)

REFERENCE DATA

SHEP = 2.4810 30. FT. XMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 BREF = 30.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.246 ELEVON = .000
 RUDDER = .000 SPOORA = .000

RUN NO. 0/ 0 RN/L = 2.74 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
2.000	-10.360	2.01000	.09100	-.04630	.43080	.25010	.43230	-.18300	.08080
2.000	-8.040	2.00000	.09490	-.04520	.43270	.25510	.36130	-.15000	.07500
2.000	-6.040	2.01000	.11080	-.04970	.42740	.25380	.29730	-.13000	.08720
2.000	-3.990	1.92000	.10810	-.04780	.41750	.25560	.17160	-.07170	.03030
2.000	-2.920	1.92000	.10630	-.04790	.41010	.26020	.09100	-.04250	.01310
2.000	.010	1.92000	.10230	-.04530	.40480	.26070	.00280	-.00340	-.00130
2.000	2.950	1.92000	.10830	-.05030	.40920	.26010	-.00890	.04370	-.01450
2.000	4.080	1.90000	.09400	-.04600	.41390	.25920	-.18650	.08190	-.03460
2.000	6.080	2.04000	.10310	-.05130	.42060	.25970	-.25970	.10990	-.05070
2.000	8.110	2.03000	.10430	-.05200	.42400	.26370	-.33850	.15240	-.07330
2.000	10.150	2.35000	.11870	-.05910	.42300	.26260	-.51550	.23130	-.10490
GRADIENT		-.00199	-.00130	.00005	-.00039	.00035	-.04484	.01947	-.00779

RUN NO. 0/ 0 RN/L = 2.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-9.980	4.30000	.22230	-.09150	.42200	.24460	.37480	-.14140	.06420
4.000	-8.090	4.20000	.22860	-.09480	.42320	.24820	.38330	-.15880	.08200
4.000	-5.990	4.20000	.22010	-.08940	.41890	.25060	.23620	-.09570	.04750
4.000	-3.970	4.20000	.21600	-.08700	.41150	.25390	.14780	-.05890	.02910
4.000	-2.000	4.20000	.22570	-.09090	.40500	.25430	.06370	-.02490	.00520
4.000	-.070	4.24000	.23900	-.09840	.40100	.25700	.11280	-.06840	.03180
4.000	1.990	4.20000	.23470	-.09870	.40450	.25560	-.03570	.00450	-.00150
4.000	4.100	4.43000	.23640	-.09970	.40590	.25390	-.19370	.08530	-.03610
4.000	6.060	4.41000	.22560	-.09560	.41080	.25600	-.25290	.10690	-.04950
4.000	8.150	4.41000	.24180	-.10830	.41340	.25700	-.36720	.15290	-.07450
4.000	10.140	4.39000	.22470	-.09720	.41360	.25560	-.46100	.20900	-.09190
GRADIENT		.02311	.00245	-.00164	-.00056	.00005	-.03928	.01598	-.00689



AMES 11-716 1A16A 01-112-312MS-A110 (COMPOSITE)

(RB1133) (02 JAN 74)

REFERENCE DATA

REF = 2.4210 50. FT. WMP = .0000 IN.
 LREF = 30.7000 IN. YMP = .0000 IN.
 BREF = 30.7000 IN. ZMP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.848 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RN/L = 2.74 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	-9.960	0.34000	.32920	-.14140	.41350	.23540	.37050	-.13320	.06010
0.000	-7.970	0.30000	.34800	-.14500	.41370	.24140	.29930	-.10390	.03470
0.000	-6.000	0.98000	.32380	-.13110	.41280	.24610	.25480	-.10280	.05100
0.000	-4.010	0.99000	.32800	-.13270	.40870	.25010	.19550	-.08590	.04470
0.000	-2.060	0.01000	.33570	-.13390	.40340	.24900	.14900	-.07310	.03380
0.000	.070	0.02000	.34150	-.13620	.39760	.25060	.01450	-.01990	-.00910
0.000	2.060	0.01000	.33500	-.13640	.39990	.24950	-.08960	.04110	-.02410
0.000	4.060	0.99000	.32950	-.13720	.40230	.24920	-.16530	.06880	-.03590
0.000	6.090	0.98000	.33050	-.13950	.40670	.25070	-.20930	.07370	-.03870
0.000	8.160	0.97000	.33020	-.14370	.41010	.25040	-.39460	.15830	-.08110
0.000	10.160	0.95000	.32650	-.14440	.40810	.24730	-.43790	.17230	-.08670
GRADIENT		.00000	.00012	-.00037	-.00081	-.00006	-.04747	.02086	-.01084

RUN NO. 0/0 RN/L = 2.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	-10.030	0.91000	.43730	-.18040	.40950	.23130	.4 80	-.15960	.07460
0.000	-8.030	0.93000	.43050	-.17660	.41000	.23600	.34740	-.12970	.06360
0.000	-5.970	0.81000	.42980	-.17230	.40820	.24070	.20470	-.07000	.04010
0.000	-4.000	0.83000	.43580	-.17230	.40170	.23990	.13100	-.05510	.02840
0.000	-2.030	0.83000	.43600	-.17370	.39870	.24110	.10830	-.05040	.02090
0.000	.040	0.84000	.44090	-.17620	.39120	.24350	-.02890	.01440	-.01250
0.000	2.040	0.83000	.44140	-.17930	.39490	.24560	-.07040	.02460	-.01730
0.000	4.060	0.87000	.44090	-.17860	.39720	.24210	-.11710	.03780	-.02060
0.000	6.160	0.97000	.44170	-.18200	.40210	.24280	-.24940	.09370	-.05070
0.000	8.110	0.96000	.44990	-.19100	.40530	.24240	-.27800	.09760	-.04840
0.000	10.230	0.96000	.45910	-.20030	.40290	.23930	-.49090	.20150	-.08910
GRADIENT		.00397	.00077	-.00090	-.00073	.00044	-.03545	.01324	-.00676

AMES 11-716 1A14A 01+T12+S12N23+AT110 (COMPOSITE)

(N81133) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ. FT. XREF = .0000 IN.
 LREF = 38.7090 IN. YREF = .0000 IN.
 BREF = 38.7090 IN. ZREF = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.248 ELEVOM = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RN/L = 2.74 GRADIENT INTERVAL = -1.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
10.000	-9.980	9.89000	.54970	-.23980	.40470	.22560	.49690	-.14230	.06820
10.000	-7.920	9.93000	.55980	-.22560	.40410	.20880	.29000	-.09330	.05040
10.000	-6.010	9.94000	.55630	-.21730	.40210	.20220	.27120	-.10290	.03270
10.000	-3.990	9.89000	.54160	-.21140	.39870	.23460	.14870	-.05370	.02930
10.000	-1.980	9.90000	.55140	-.21930	.38930	.23330	.06860	-.02700	.01320
10.000	.020	9.91000	.56050	-.22500	.38470	.23930	.00430	-.00690	.00470
10.000	2.040	9.90000	.55320	-.22290	.38590	.23720	-.03440	-.00210	-.00210
10.000	4.130	9.90000	.55910	-.22520	.38930	.23750	-.19210	.07410	-.03960
10.000	6.100	9.88000	.53940	-.21330	.39360	.23560	-.18220	.05740	-.03220
10.000	8.110	9.87000	.55580	-.22780	.39880	.23630	-.27110	.08780	-.04400
10.000	10.190	10.00000	.55090	-.23210	.39730	.23170	-.39020	.14040	-.06660
GRADIENT		.02063	.05181	-.00134	-.00109	.00046	-.03879	.01409	-.00758

REFERENCE DATA

SREF = 2.4210 SQ. FT. XREF = .0000 IN.
 LREF = 38.7090 IN. YREF = .0000 IN.
 BREF = 38.7090 IN. ZREF = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = .597 ELEVOM = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RN/L = 3.97 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-8.000	-8.070	-8.36000	-.29480	.00890	.17730	.04720	.10750	.00370	-.02400
-8.000	-4.040	-8.33000	-.28160	.00570	.17380	.04940	.03590	-.00240	-.01240
-8.000	.010	-8.31000	-.28320	.01040	.16900	.06130	-.00370	.00210	.00010
-8.000	4.080	-8.32000	-.26770	-.00230	.17010	.06230	-.03280	.00220	.01280
-8.000	8.150	-8.33000	-.25860	-.00990	.17700	.06750	.10220	.00010	.02370
GRADIENT		.00123	.00171	-.00101	-.00046	.00159	-.01339	.00057	.00310



REFERENCE DATA

SREF = 2.4210 50.FT. YMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BREF = 38.7090 IN. ZMRP = 9.9900
 SCALE = .0000

MACH = .997 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

PARAMETRIC DATA

RUN NO. 0/ 0 RN/L = 3.96 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-8.130	-4.31000	-2.1170	.01850	.17900	.05900	.12110	-.00190	-.01770
-4.000	-4.060	-4.30000	-1.9840	.01420	.18900	.05760	.1460	-.00650	-.00920
-4.000	.010	-4.30000	-1.9910	.01560	.16560	.06890	.1110	-.00120	.00010
-4.000	4.070	-4.30000	-1.1890	.00780	.16690	.06890	-.0170	.00430	.00990
-4.000	8.130	-4.30000	-1.1790	-.00230	.17610	.06840	-.11790	.00620	.01770
GRADIENT		-.00000	.00109	-.00079	-.00037	.00139	-.01517	.00133	.00230

RUN NO. 0/ 0 RN/L = 3.97 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.150	-4.90000	-.13210	.02940	.17090	.06790	.14190	-.01560	-.01080
.000	-4.080	-4.70000	-.10960	.02160	.17060	.06090	.07110	-.01130	-.00560
.000	.000	-4.70000	-.11240	.02360	.16280	.07030	-.00070	-.00120	.00010
.000	4.090	-4.70000	-.09800	.01350	.16640	.07090	-.06800	.00900	.00550
.000	8.150	-4.70000	-.09080	.00830	.17650	.07060	-.13680	.01740	.01040
GRADIENT		-.00000	.00138	-.00099	-.00051	.00122	-.01703	.00246	.00136

RUN NO. 0/ 0 RN/L = 3.96 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.170	3.95000	-.02660	.04340	.17650	.06500	.17560	-.03480	-.00030
4.000	-4.090	3.95000	-.01150	.04140	.16880	.06290	.09250	-.02190	-.00030
4.000	.000	3.95000	-.01350	.04440	.16460	.07520	.00380	-.00290	-.00020
4.000	4.090	3.96000	-.00740	.03570	.16840	.06950	-.07560	.01420	-.00040
4.000	8.190	3.96000	.00840	.02670	.17310	.06800	-.16250	.03120	-.00060
GRADIENT		-.00123	.00051	-.00070	-.00029	.00081	-.02065	.00443	-.00001

RUN NO. 0/ 0 RN/L = 3.96 GRADIENT INTERVAL = 5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
8.000	-8.190	7.94000	.07560	.04710	.16840	.05960	.1110	-.04630	.00760
8.000	-4.090	7.98000	.09260	.04740	.16140	.05470	.09950	-.02340	.00370
8.000	.010	7.99000	.09000	.03100	.15600	.05730	.00430	-.00390	-.00040
8.000	4.120	7.97000	.09710	.04130	.15940	.05940	-.00880	.01740	-.00470
8.000	8.240	7.96000	.10920	.03260	.16650	.06300	-.18390	.04040	-.00820
GRADIENT		-.00122	.00055	-.00074	-.00024	.00057	-.02233	.00521	-.00102

AMES 11-716 1A14A 08+T12+SIGN23+AT11 (TANK+SRM)

(R01135) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 50. FT. XMRP = .0000 IN.
 LREF = 30.7000 IN. YMRP = .0000 IN.
 BREF = 30.7000 IN. ZMRP = 9.9000 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = .749 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/ 0 RN/L = 3.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	CLM	CA	CAF	CY	CYN	CBL
-8.000	-8.100	.0200	.1000	.0370	.1100	.00230	-.02430
-8.000	-4.050	.0130	.1040	.0500	.0570	-.00160	-.01260
-8.000	.010	.0100	.1000	.0700	.00070	.00100	.00010
-8.000	4.080	.0020	.1000	.0670	-.0520	.00290	.01310
-8.000	8.170	-.0010	.1030	.0720	-.1080	.00410	.02430
GRADIENT	-.00000	-.00157	-.00048	.00103	-.01334	.00090	.00316

RUN NO. 0/ 0 RN/L = 3.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	CLM	CA	CAF	CY	CYN	CBL
-4.000	-8.160	.0250	.1090	.0640	.1290	-.00690	-.01670
-4.000	-4.070	.0210	.1020	.0660	.0640	-.00610	-.00940
-4.000	.010	.0210	.1730	.0620	.00160	-.00170	.00020
-4.000	4.090	.0160	.1780	.0740	-.0630	.00600	.01000
-4.000	8.190	.0070	.1040	.0750	-.1230	.01010	.01760
GRADIENT	.00000	-.00132	-.00053	.00099	-.01559	.00146	.00236

RUN NO. 0/ 0 RN/L = 3.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	CLM	CA	CAF	CY	CYN	CBL
.000	-8.200	.0300	.1910	.0700	.1510	-.01920	-.01130
.000	-4.090	.0310	.1020	.0720	.0780	-.01310	-.00370
.000	.020	.0250	.1740	.0710	.00050	-.00110	-.00010
.000	4.090	.0240	.1780	.0730	-.0690	.01100	.00310
.000	8.180	.0170	.1060	.0740	-.1390	.00240	.01090
GRADIENT	.00122	-.00135	-.00054	.00015	-.01007	.00295	.00132

RUN NO. 0/ 0 RN/L = 3.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.200	.0300	.1060	.0720	.1080	-.01070	-.00090
4.000	-4.110	.0220	.1790	.0730	.0910	-.02270	-.00010
4.000	.010	.0460	.1730	.0710	.00360	-.00310	-.00030
4.000	5.110	.0410	.1720	.0700	-.1040	.02270	-.00060
4.000	8.220	.0360	.1020	.0750	-.1740	.03640	-.00060
GRADIENT	-.00000	-.00075	-.00129	-.00041	-.02172	.00476	-.00005



DATE 18 JAN 75

TABULATED SOURCE DATA - TA14A

PAGE 17

AWES 11-716 TA14A 01+T12+312425+AT11 (TANK+SRM)

(R01135) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 BRP = 30.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = .749 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RML/L = 3.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	-0.200	7.99000	.06330	.06000	.17900	.06510	.20340	-.04000	.00740
0.000	-4.090	0.03000	.09150	.03200	.17000	.06350	.09920	-.02440	.00400
0.000	.000	0.04000	.09650	.03200	.16740	.06150	.00160	-.00150	-.00340
0.000	4.130	0.03000	.09550	.04020	.17010	.06360	-.09250	.02160	-.00470
0.000	0.270	0.02000	.10910	.04030	.17640	.06750	-.19490	.04540	-.00810
	GRADIENT	-.00000	.00049	-.00056	-.00010	.00001	-.02332	.00560	-.00106

AWES 11-716 TA14A 01+T12+312425+AT11 (TANK+SRM)

(R01136) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 BRP = 30.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = .849 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RML/L = 3.49 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	-0.100	-0.97000	-.34190	.02260	.20130	.06100	.11750	-.00190	-.02470
0.000	-4.040	-0.94000	-.32030	.01660	.19500	.06970	.06070	-.00490	-.01280
0.000	-.020	-0.40000	-.30190	.00950	.19170	.07020	-.00260	-.00230	-.00010
0.000	4.090	-0.40000	-.30010	.00900	.19230	.06960	-.06350	.00930	.01320
0.000	0.180	-0.52000	-.30220	.00220	.19810	.07300	-.12040	.01130	.02480
	GRADIENT	.00612	.00248	-.00143	-.00033	-.00001	-.01328	.00175	.00320

RUN NO. 0/0 RML/L = 3.49 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	-0.160	-4.30000	-.23590	.02060	.20210	.07380	.13130	-.00900	-.01720
0.000	-4.060	-4.29000	-.21690	.02190	.19380	.07680	.06280	-.00650	-.00870
0.000	.030	-4.27000	-.19940	.01690	.18710	.07850	-.00180	.00030	.00000
0.000	4.080	-4.28000	-.19820	.01130	.19100	.07780	-.06350	.00890	.00890
0.000	0.150	-4.23000	-.19750	.00860	.19710	.08100	-.13370	.01730	.01760
	GRADIENT	.00123	.00250	-.00130	-.00046	.00012	-.01374	.00189	.00216

ORIGINAL PAGE IS
 OF POOR QUALITY

(R01136) (02 JAN 74)

AMES 11-716 1A14A 01+118+318+25+AT11 (TANK+SRK)

REFERENCE DATA

SREF = 2.4210 50. FT. XMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 BRP = 30.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

MACH = .849 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

PARAMETRIC DATA

RUN NO. 0/0 RH/L = 3.49 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-0.180	-0.5000	-0.1500	.04160	.20110	.07850	.15300	-.02180	-.01170
.000	-4.000	-0.5000	-0.13700	.02840	.19410	.07080	.07220	-.01210	-.00600
.000	.020	-0.54000	-0.12480	.02010	.18570	.06160	-.00260	.00010	-.00010
.000	0.180	-0.50000	-0.12380	.02120	.19770	.06620	-.15030	.02820	.01190
GRADIENT		-.00245	.00319	-.00203	-.00206	.00020	-.01833	.00299	.00145

RUN NO. 0/0 RH/L = 3.49 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-4.000	3.74000	-0.03390	.04620	.16150	.08040	.09160	-.02250	-.00090
4.000	.010	3.74000	-0.02350	.04050	.16780	.08020	.00230	-.00150	-.00030
4.000	4.110	3.73000	-0.02800	.04040	.19010	.08020	-.08710	.02130	.00040
4.000	0.220	3.73000	-0.02180	.03650	.19500	.07880	-.17830	.04000	.00120
GRADIENT		-.00122	.00072	-.00071	-.00017	-.00002	-.02179	.00534	.00016

RUN NO. 0/0 RH/L = 3.48 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	.000	0.03000	.09180	.03110	.18140	.07110	.00140	-.00200	-.00050
0.000	4.150	0.02000	.09010	.04950	.18400	.07320	-.09780	.02320	-.00460
0.000	0.270	0.01000	.03460	.04410	.19070	.07260	-.19930	.04870	-.00770
GRADIENT		-.00241	-.00041	-.00039	.00063	.00051	-.02390	.00655	-.00099



DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

(R01137) (02 JAN 74)

AMES 11-716 1A14A 01+T12+S12M25+AT11 (TANK+SRN)

REFERENCE DATA

SREF = 8.4210 30. FT. XREF = .0000 IN.
LREF = 30.7500 IN. YREF = .0000 IN.
BREF = 30.7500 IN. ZREF = 9.9900 IN.
SCALE = .0300

PARAMETRIC DATA

MACH = .955 ELEVON = .000
RUDDER = .000 SPOBRK = .000

RUN NO. 0/ 0 RN/L = 3.25 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-8.000	-4.050	-8.54000	-31470	-.00670	.22910	.09040	.07550	-.01100	-.01400
-8.000	.010	-8.51000	-.29000	-.01600	.21960	.08120	.00330	-.00060	.00310
-8.000	4.090	-8.52000	-.29600	-.01340	.22780	.09380	-.07510	.01660	.01460
-8.000	8.180	-8.55000	-.30500	-.00660	.23640	.10310	-.13360	.01830	.02810
	GRADIENT	.00245	.00220	-.00082	-.00018	.00042	-.01850	.00349	.00351

RUN NO. 0/ 0 RN/L = 3.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-8.160	-4.41000	-.23100	.02320	.23430	.08350	.15270	-.01990	-.01850
-4.000	-4.090	-4.39000	-.20320	.00910	.22480	.09270	.07820	-.01510	-.00950
-4.000	-.020	-4.39000	-.18920	.00040	.21740	.09410	.00650	-.00240	.00010
-4.000	4.080	-4.39000	-.18540	-.00200	.22200	.09630	-.07540	.1660	.00990
-4.000	8.150	-4.41000	-.19250	.00070	.23660	.10880	-.14470	.02490	.01940
	GRADIENT	-.00030	.00218	-.00136	-.00034	.00044	-.01880	.00388	.00237

RUN NO. 0/ 0 RN/L = 3.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.170	-.52000	-.13250	.04100	.23320	.09270	.17000	-.03120	-.01110
.000	-4.080	-.51000	-.12270	.02670	.22400	.09570	.08400	-.01920	-.00590
.000	.010	-.51000	-.10740	.01850	.21490	.09830	.00220	-.00080	-.00010
.000	4.090	-.51000	-.10620	.01700	.22160	.09930	-.07820	.01630	.00600
.000	8.190	-.52000	-.11240	.01910	.23300	.10270	-.15990	.03270	.01130
	GRADIENT	.00000	.00202	-.00119	-.00029	.00044	-.01985	.00459	.00146

RUN NO. 0/ 0 RN/L = 3.2 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.210	3.96000	-.05050	.05860	.23040	.09520	.19790	-.04560	-.00240
4.000	-4.090	3.96000	-.02980	.04090	.21910	.09210	.09860	-.02680	-.00140
4.000	.000	3.95000	-.02090	.03220	.21360	.09590	.01240	-.00020	-.00010
4.000	4.110	3.95000	-.02300	.03320	.21690	.09310	-.08730	.02380	.00130
4.000	8.210	3.96000	-.01350	.03710	.23050	.09800	-.17920	.04340	.00210
	GRADIENT	-.00122	.00083	-.00094	-.00027	.00012	-.02267	.00617	.00033

AWES 11-716 1A14A 01+712+312H25+AT11 (TANK+SRW)

(RB1137) (02 JAN 74)

REFERENCE DATA

REF = 2.4210 SQ.FT. XREF = .0000 IN.
 LREF = 30.7090 IN. YREF = .0000 IN.
 BREF = 30.7090 IN. ZREF = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = .955 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

RUN NO. 0/0 RN/L = 3.84 GRADIENT INTERVAL = -9.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	-0.190	7.90000	.07300	.04170	.22250	.00760	.21070	-.05390	.00310
0.000	-4.100	0.01000	.09400	.03300	.21300	.09060	.12280	-.03620	.00730
0.000	.010	0.01000	.08000	.04000	.21400	.00720	.00790	-.00530	-.00060
0.000	4.130	0.00000	.09940	.02790	.21200	.00950	-.10590	.03150	-.00370
0.000	0.260	7.99000	.11300	.02000	.22000	.00470	-.20460	.05170	-.00360
GRADIENT		-.00122	.00036	-.00062	-.00036	-.00062	-.02779	.00823	-.00085

AWES 11-716 1A14A 01+712+312H25+AT11 (TANK+SRW)

(RB1136) (02 JAN 74)

REFERENCE DATA

REF = 2.4210 SQ.FT. XREF = .0000 IN.
 LREF = 30.7090 IN. YREF = .0000 IN.
 BREF = 30.7090 IN. ZREF = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.032 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

RUN NO. 0/0 RN/L = 2.99 GRADIENT INTERVAL = -9.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-0.000	-0.150	-0.60000	-.33070	-.00000	.27630	.11420	.16430	-.01310	-.02060
-0.000	-5.070	-0.50000	-.31530	-.02230	.26040	.11700	.10200	-.01090	-.01860
-0.000	.000	-0.56000	-.29000	-.03630	.25900	.11350	-.00100	.00210	.00030
-0.000	4.120	-0.57000	-.20560	-.04140	.26100	.12020	-.06860	.01000	.01630
-0.000	0.200	-0.60000	-.30000	-.03130	.27650	.12910	-.13550	.01100	.02990
GRADIENT		-.00243	.00107	-.00124	.00046	.00163	-.01621	.00192	.00368

RUN NO. 0/0 RN/L = 2.99 GRADIENT INTERVAL = -9.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-0.170	-4.45000	-.22190	.00370	.27410	.12420	.15340	-.01460	-.02090
-4.000	-4.100	-4.45000	-.19350	-.00990	.26310	.12390	.07960	-.01170	-.01090
-4.000	.000	-4.45000	-.18140	-.01800	.25910	.12450	.01030	-.00360	.00340
-4.000	4.090	-4.45000	-.17500	-.02300	.26390	.12330	-.06950	.01120	.01190
-4.000	0.160	-4.45000	-.18900	-.01920	.27040	.12370	-.14190	.01060	.02150
GRADIENT		.00000	.00216	-.00160	-.00019	.00066	-.01023	.00200	.00276



(001130) (02 JAN 74)

TABULATED SOURCE DATA - 1A14A

AMES 11-716 1A14A 04-112-512125-AT11 (TANK+SEM)

DATE 10 JAN 75

PARAMETRIC DATA

WACH = 1.032 ELEVON = .000
RUDDER = .000 SPDBRK = .000

REFERENCE DATA

SAEP = 2.4210 30.FT. YMRP = .0000 IN.
LREF = 30.7390 IN. YMRP = .0000 IN.
BREF = 30.7390 IN. ZMRP = 9.9900 IN.
SCALE = .0000

RUN NO. 0/ 0 RW/L = 3.00 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	8.170	-.54000	-.13800	.02830	.27310	.12950	.16760	-.02720	-.01290
.000	-4.090	-.53000	-.10790	.01250	.26300	.12970	.08900	-.01890	-.00870
.000	.000	-.52000	-.09690	.00910	.26000	.12930	.05390	-.00210	-.00010
.000	4.100	-.52000	-.08980	.00280	.26430	.12850	-.08200	.01800	.00670
.000	8.180	-.53000	-.09650	.00600	.27460	.13180	.11610	.02920	.01260
GRADIENT		.00122	.00223	-.00116	-.00009	-.00015	-.02068	.00451	.00164

RUN NO. 0/ 0 RW/L = 3.00 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.200	3.95000	-.04370	.05630	.27180	.12370	.20340	-.04730	-.00230
.000	-4.110	3.96000	-.01100	.03360	.26190	.12350	.19930	-.02930	-.00180
.000	.000	3.96000	.00070	.02670	.25830	.12370	.00410	-.00230	-.00020
.000	4.120	3.95000	-.00460	.02730	.26160	.12370	-.09380	.02600	.00180
.000	8.230	3.96000	-.01110	.03770	.26910	.12790	-.19530	.04740	.00240
GRADIENT		-.00122	.00076	-.00101	-.00004	.00002	-.02468	.00672	.00044

RUN NO. 0/ 0 RW/L = 3.00 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.160	7.95000	.06130	.04520	.26480	.11460	.21840	-.05280	.00390
.000	-4.080	8.00000	.03340	.04020	.25950	.11770	.11000	-.02980	.00230
.000	.000	8.02000	.11120	.03460	.25240	.11700	.00260	-.00110	-.00030
.000	4.130	8.00000	.10380	.02830	.25900	.11720	-.09840	.02730	-.00240
.000	8.300	7.96000	.09250	.02740	.26160	.12080	-.21370	.05190	-.00430
GRADIENT		-.00001	.00150	-.00143	.00006	-.00006	-.02338	.00698	-.00057

ORIGINAL PAGE IS
OF POOR QUALITY

AWES 11-716 1A14A ON+T12+312H25+AT11 (TANK+SRM)

(RBL139) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 56. FT. XMRP = .0000 IN.
 LREF = 36.7090 IN. YMRP = .0000 IN.
 BREF = 36.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0000

MACH = 1.134 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

PARAMETRIC DATA

RUN NO. 0/0 RN/L = 3.00 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-8.000	-8.150	-8.87000	-35570	-90300	.2730	.1320	.15780	-.01480	-.02870
-8.000	-4.070	-8.64000	-31980	-.02370	.27000	.13050	.07790	-.01000	-.01550
-8.000	-0.010	-8.62000	-30020	-.03180	.27110	.13150	.01230	-.00280	-.00010
-8.000	4.080	-8.64000	-30260	-.03390	.27050	.13600	-.06020	.01050	.01630
-8.000	8.210	-8.67000	-.32350	-.02430	.27560	.14000	-.14750	.01920	.02970
GRADIENT		-.00001	.00211	-.00125	.00006	.00068	-.01695	.00252	.00390

RUN NO. 0/0 RN/L = 3.00 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-8.160	-4.49000	-.23770	-.01340	.27700	.14030	.15670	-.02000	-.02120
-4.000	-4.080	-4.47000	-.20250	-.00330	.26950	.14230	.07440	-.01200	-.01100
-4.000	.010	-4.46000	-.18890	-.01220	.26780	.14350	-.00160	-.00040	.00060
-4.000	4.170	-4.46000	-.18870	-.01230	.27050	.14350	-.07300	.01400	.01200
-4.000	8.160	-4.46000	-.19890	-.01010	.27580	.14690	-.14700	.02230	.02180
GRADIENT		.00121	.00167	-.00109	.00007	.00015	-.01786	.00315	.00279

RUN NO. 0/0 RN/L = 3.00 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-4.100	-.53000	-.11470	.02170	.27250	.14840	.09440	-.02310	-.00670
.000	.010	-.52000	-.09570	.01460	.26840	.14810	.00520	-.00310	-.00040
.000	4.080	-.53000	-.09830	.01410	.27090	.14870	-.07690	.01820	.00620
.000	8.200	-.54000	-.10830	.01550	.26000	.15010	-.16690	.03300	.01270
GRADIENT		.00000	.00201	-.00093	-.00017	.00004	-.02094	.00505	.00156

RUN NO. 0/0 RN/L = 3.00 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.200	3.93000	-.05690	.06620	.27930	.14550	.20060	-.04980	-.00320
4.000	-4.090	3.96000	-.02050	.04290	.26620	.14570	.10210	-.02940	-.00190
4.000	.020	3.93000	-.00950	.03170	.26310	.14420	.00120	-.00050	-.00050
4.000	4.110	3.93000	-.01100	.03350	.26590	.14340	-.09500	.02830	.00160
4.000	8.210	3.96000	-.01910	.04440	.27490	.15240	-.19300	.04840	.00240
GRADIENT		-.00122	.00116	-.00115	-.00004	-.00028	-.02434	.00704	.00043



TABULATED SOURCE DATA - IAI44

DATE 10 JAN 75

(RB1139) (02 JAN 74)

AMES 11-716 IAI44 01+T12+312W25+AT11 (TANK+SRM)

REFERENCE DATA

SREF = 2.4210 30.FT. XMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 BREF = 30.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

MACH = 1.134 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

PARAMETRIC DATA

RUN NO. 0/ 0 RN/L = 3.00 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
8.000	-8.210	7.98000	.05200	.05590	.27240	.13970	.28040	-.05480	.00310
8.000	-4.080	8.01000	.08240	.04570	.26170	.13810	.10790	-.03040	.00190
8.000	.000	8.02000	.10020	.03760	.26000	.13690	.09950	-.00250	.00000
8.000	4.140	8.00000	.08890	.03800	.26140	.13650	-.09960	.02890	-.00200
8.000	8.290	7.98000	.08710	.03300	.26740	.14260	-.20690	.03440	-.00390
GRADIENT		-.00123	.00078	-.00093	-.00004	.00005	-.02525	.00722	-.00047

(RB1140) (02 JAN 74)

AMES 11-716 IAI44 01+T12+312W25+AT11 (TANK+SRM)

REFERENCE DATA

SREF = 2.4210 30.FT. XMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 BREF = 30.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

MACH = 1.398 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

PARAMETRIC DATA

RUN NO. 0/ 0 RN/L = 2.74 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
8.000	-8.190	-8.47000	-.41270	.03580	.26840	.15190	.16810	-.00870	-.02920
8.000	-4.080	-8.44000	-.36550	.00860	.26120	.14500	.08140	-.00330	-.01960
8.000	.000	-8.42000	-.34410	-.00310	.25990	.15180	-.00040	.00010	.00020
8.000	4.120	-8.43000	-.34700	-.00360	.26220	.15230	-.07200	.00350	.01610
8.000	8.270	-8.53000	-.37730	.01170	.27030	.15730	-.15120	.00660	.03000
GRADIENT		.00121	.00225	-.00131	.00012	.00079	-.01871	.00107	.00387

RUN NO. 0/ 0 RN/L = 2.74 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
8.000	-8.200	-4.36000	-.25950	.03370	.26990	.15600	.15970	-.01010	-.02080
8.000	-4.100	-4.34000	-.21980	.01190	.26270	.14820	.07390	-.00370	-.01080
8.000	.000	-4.25000	-.20480	.00330	.25840	.14890	.09430	-.00190	-.00020
8.000	4.110	-4.26000	-.20010	.00050	.26320	.15700	-.06170	.00280	.01120
8.000	8.210	-4.28000	-.21330	.00320	.26730	.16790	-.13440	.00510	.02080
GRADIENT		.00974	.00240	-.00139	.00031	.00107	-.01652	.00104	.00266

TABULATED SOURCE DATA - 1A14A

DATE 10 JAN 75

(R81140) (02 JAN 74)

AMES 11-716 1A14A 01012+512+25+AT11 (TANK+SRM)

REFERENCE DATA

SREF = 2.4210 30.FT. YMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 BREF = 30.7090 IN. YMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.398 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RN/L = 2.72 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.230	-5.0000	-1.8900	.05810	.27210	.15480	.18400	-.02660	-.01260
.000	-4.100	-5.4000	-1.2900	.03840	.26350	.14940	.09230	-.01700	-.05620
.000	-.010	-5.4000	-1.1430	.03060	.26040	.15320	.00630	-.00300	-.00030
.000	4.110	-5.5000	-1.1230	.02510	.26690	.15760	-.07070	.00910	.05600
.000	8.210	-5.5000	-1.1170	.02620	.27230	.16920	-.13770	.01740	.01220
GRADIENT		-.00122	.00203	-.00162	.00017	.00100	-.01985	.00316	.00149

RUN NO. 0/0 RN/L = 2.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.210	4.07000	-.07450	.00780	.26960	.15140	.21250	-.04800	-.00380
4.000	-4.100	4.09000	-.03160	.06490	.26440	.14820	.10370	-.02810	-.00140
4.000	.000	4.01000	-.02100	.03300	.25970	.15000	.00730	-.00410	-.00030
4.000	4.110	4.04000	-.02260	.03190	.26390	.15830	-.00820	.02040	.00100
4.000	8.240	4.06000	-.03360	.06070	.27150	.16980	-.19170	.03880	.00280
GRADIENT		-.00608	.00110	-.00158	.00018	.00123	-.02362	.00591	.00029

RUN NO. 0/0 RN/L = 2.74 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
8.000	-8.220	8.12000	.05420	.07650	.26330	.14800	.23320	-.05790	.00390
8.000	-4.100	8.10000	.07760	.06420	.25910	.14590	.11130	-.02870	.00270
8.000	.000	8.04000	.09250	.03030	.25380	.14720	.00260	-.00200	-.00040
8.000	8.300	8.15000	.08540	.03690	.26420	.16410	-.22060	.05390	-.00480
GRADIENT		-.01463	.00363	-.00339	-.00080	.00041	-.02646	.00651	-.00076



AMES 11-716 1A14A 01-112-312N25

(TANK-SRM)

(R81141) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 50-FT. XMRP = .0000 IN.
 LREF = 30.7000 IN. YMRP = .0000 IN.
 BREF = 30.7000 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = .597 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RN/L = 3.96 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-8.000	-0.010	-0.26000	-0.23900	-0.02000	.16200	.06360	-0.00200	.00000	.00000
-8.000	4.070	-0.27000	-0.23100	-0.02800	.16800	.06720	-.05300	.00200	.01200
-8.000	8.170	-0.29000	-0.22100	-0.03400	.17700	.07400	-.09300	-.00600	.02300
GRADIENT		-.00245	.00203	-.00189	.00147	.00088	-.01257	.00029	.00289

RUN NO. 0/0 RN/L = 3.96 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-8.130	-4.31000	-1.16700	-0.01100	.17400	.06460	.11320	.00140	-.01640
-4.000	-4.080	-4.29000	-1.13600	-0.01620	.16500	.06300	.05820	-.00160	-.00870
-4.000	.000	-4.29000	-1.12000	-0.01510	.15800	.06700	-.00300	.00220	.00010
-4.000	4.070	-4.18000	-1.14000	-0.02220	.16500	.07140	-.05290	.00190	.00870
-4.000	8.140	-4.19000	-1.13200	-0.02950	.17720	.07450	-.10870	.00100	.01660
GRADIENT		.01349	.00155	-.00074	-.00011	.00099	-.01363	.00043	.00213

RUN NO. 0/0 RN/L = 3.96 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.150	-4.80000	-0.07500	-0.00990	.17500	.06620	.14140	-.01540	-.00980
.000	-4.090	-4.80000	-0.06110	-0.01350	.16400	.06450	.06960	-.00930	-.00490
.000	.020	-4.70000	-0.06540	-0.00790	.15700	.06950	.00040	-.00080	.00020
.000	4.060	-4.80000	-0.05100	-0.01940	.16300	.07080	-.06260	.00560	.00510
.000	8.180	-4.70000	-0.04100	-0.02470	.17770	.07080	-.13130	.01250	.00930
GRADIENT		.00001	.00123	-.00072	-.00010	.00077	-.01622	.00103	.00123

RUN NO. 0/0 RN/L = 3.99 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.170	4.00000	.02340	.01180	.17190	.06510	.17680	-.03530	.00080
4.000	-4.080	4.10000	.04360	.00520	.16310	.06650	.08680	-.0.810	.00080
4.000	.000	4.11000	.03630	.01250	.15720	.06860	.00090	-.00020	.00010
4.000	4.090	4.10000	.04740	.00130	.16180	.06510	-.08190	.01750	-.00090
4.000	8.200	4.10000	.06000	-.00370	.17320	.06900	-.16620	.03310	-.00170
GRADIENT		.00000	.00046	-.00047	-.00016	-.00005	-.00265	.00436	-.00021

AMES 11-716 1A14A 01+T12+S12N25

(TANK+SRM)

(RB1141) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BREF = 38.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0000

PARAMETRIC DATA

MACH = .597 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/ 0 RN/L = 3.98 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLW	CA	CAF	CY	CYN	CBL
0.000	-0.140	0.04000	.12310	.01770	.16500	.05790	.19330	-.04330	.00850
0.000	-4.060	0.06000	.14750	.01230	.15590	.05980	.09850	-.02360	.00460
0.000	-.920	0.09000	.13660	.02000	.15070	.06330	.00070	-.00040	-.00030
0.000	0.220	0.22000	.14930	.00500	.16890	.06140	-.19110	.04450	-.00950
GRADIENT		.00246	-.00268	.00209	-.00120	.00066	-.02403	.00570	-.00120

AMES 11-716 1A14A 01+T12+S12N25

(TANK+SRM)

(RB1142) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BREF = 38.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0000

PARAMETRIC DATA

MACH = .750 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/ 0 RN/L = 4.26 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLW	CA	CAF	CY	CYN	CBL
-0.000	-0.110	-0.37000	-.27340	-.01730	.18690	.05900	.11290	.00330	-.02390
-0.000	-4.060	-0.22000	-.29730	-.02090	.17760	.06180	.06230	-.00330	-.01240
-0.000	.010	-0.20000	-.25010	-.02050	.17010	.06710	.00160	.00040	.00030
-0.000	4.090	-0.21000	-.23600	-.03140	.17770	.06470	-.03220	.00210	.01200
-0.000	0.190	-0.40000	-.23820	-.03340	.18910	.07280	-.15440	-.00100	.02430
GRADIENT		.00123	.00261	-.00129	.00001	.00038	-.01405	.00065	.00009

RUN NO. 0/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLW	CA	CAF	CY	CYN	CBL
-4.000	-0.180	-4.36000	-.17700	-.01120	.18770	.06280	.12230	-.00210	-.01640
-4.000	-4.100	-4.36000	-.16650	-.01650	.17630	.06780	.06270	-.00400	-.00910
-4.000	.010	-4.35000	-.16610	-.01300	.16780	.07530	-.00250	.00110	.00030
-4.000	4.080	-4.36000	-.15320	-.02320	.17550	.07560	-.03920	.00380	.00970
-4.000	0.190	-4.36000	-.14320	-.02970	.18840	.07570	-.11640	.00320	.01740
GRADIENT		.00000	.00162	-.00062	-.00006	.00095	-.01490	.00035	.00230



DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 87

AWES 11-716 1A14A 01+T12+S12M25

(TANK+SHM)

(RB1142) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BREF = 38.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

WACH = .750 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

PARAMETRIC DATA

RUN NO. 0/0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.200	-1.5000	-.09340	-.00490	.18660	.06930	.14690	-.01660	-.01100
.000	-4.090	-.55000	-.07260	-.01260	.17550	.07030	.06960	-.00900	-.00540
.000	.020	-.34000	-.07430	-.00760	.16640	.07450	-.00280	.00070	.00010
.000	4.100	-.55000	-.06110	-.01900	.17520	.07340	-.00840	.00840	.00550
.000	8.230	-.54000	-.05750	-.02090	.18790	.07610	-.13940	.01610	.01040
	GRADIENT	.00000	.00140	-.00078	-.00004	.00038	-.01685	.00212	.00133

RUN NO. 0/0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.210	4.16000	.01600	.01730	.18290	.07870	.18730	-.04040	.00060
4.000	-4.110	4.18000	.04110	.00900	.17290	.07020	.09040	-.02040	.00060
4.000	.000	4.19000	.03830	.01390	.16590	.07250	-.00180	.00120	-.00010
4.000	4.120	4.18000	.05140	.00170	.17180	.06870	-.08690	.02030	-.00110
4.000	8.240	4.18000	.05700	.00050	.18310	.07340	-.17370	.03730	-.00190
	GRADIENT	-.00000	.00125	-.00089	-.00013	-.00018	-.02179	.00495	-.00021

RUN NO. 0/0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
8.000	-8.220	8.16000	.12150	.02310	.17670	.06460	.21220	-.05220	.00850
8.000	-4.090	8.20000	.14910	.01520	.16670	.06260	.10400	-.02640	.00480
8.000	.020	8.09000	.14080	.02130	.16170	.06600	-.00140	.00040	-.00030
8.000	4.160	8.07000	.14980	.01120	.16610	.06040	-.09670	.02360	-.00350
8.000	8.310	8.06000	.15250	.00830	.17850	.06210	-.19770	.04660	-.00940
	GRADIENT	-.01574	.00009	-.00049	-.00007	-.00027	-.02433	.00606	-.00125

ORIGINAL PAGE IS
 OF POOR QUALITY

AWES 11-716 1A14A 01+712+812M25 (TANK+SRM)

(R81143) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 30-FT. XMRP = .0000 IN.
 LREF = 30.7500 IN. YMRP = .0000 IN.
 BRP = 30.7500 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = .833 ELEVON = .000
 RUDDER = .000 SPDRK = .000

RUN NO. 0/ 0 RN/L = 4.51 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-8.000	-8.150	-8.40000	-26250	-.02310	.19800	.06450	.13310	-.00780	-.02520
-8.000	-4.370	-8.32000	-26570	-.02650	.18760	.06860	.07180	-.00890	-.01290
-8.000	.000	-8.29000	-26090	-.01990	.18190	.07330	.00230	.00000	.00010
-8.000	4.120	-8.37000	-24280	-.03330	.18830	.07050	-.06140	.00710	.01330
-8.000	8.220	-8.42000	-24470	-.03820	.19850	.07210	-.11560	.00310	.02320
	GRADIENT	-.05613	.00219	-.00108	.00009	.00023	-.01626	.00195	.00322

RUN NO. 0/ 0 RN/L = 4.51 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-8.210	-4.30000	-18060	-.01390	.19950	.07290	.14130	-.01030	-.01790
-4.000	-4.100	-4.28000	-16220	-.01920	.18810	.07440	.07070	-.00710	-.00890
-4.000	.000	-4.05000	-16230	-.01100	.17990	.08290	.00320	-.00190	.00000
-4.000	4.100	-4.24000	-14310	-.02740	.18790	.07810	-.06100	.00340	.00910
-4.000	8.210	-4.26000	-13720	-.03160	.19960	.07330	-.12340	.00900	.01750
	GRADIENT	.05488	.00233	-.00100	-.00002	.00045	-.01606	.00152	.00220

RUN NO. 0/ 0 RN/L = 4.48 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.240	-8.00000	-10100	-.00180	.19840	.07660	.16170	-.02200	-.01180
.000	-5.150	-8.00000	-08390	-.01020	.19070	.07760	.09810	-.01330	-.00750
.000	.010	-8.00000	-07480	-.01370	.18130	.07780	.00360	-.00240	.00010
.000	4.110	-8.00000	-07060	-.01830	.18840	.07960	-.06460	.00670	.00600
.000	8.230	-8.00000	-06820	-.01760	.19920	.08100	-.14160	.01760	.01160
	GRADIENT	.00000	.00102	-.00112	.00173	.00044	-.01668	.00222	.00144

RUN NO. 0/ 0 RN/L = 4.48 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.260	4.05000	.01010	.01580	.19590	.07680	.19490	-.04380	-.00070
4.000	-4.120	3.99000	.03360	.00590	.18870	.07940	.09700	-.02390	-.00010
4.000	.000	4.00000	.03440	.00820	.18180	.07390	.00330	-.00170	-.00020
4.000	4.200	4.10000	.04710	.00550	.18830	.07370	-.15830	.05600	-.00080
4.000	8.300	4.13000	.05060	.00390	.19840	.07400	-.20510	.05140	-.00080
	GRADIENT	.01326	.00160	-.00055	-.00004	-.00044	-.03071	.00960	-.00008



DATE 10 JAN 75

TABULATED SOURCE DATA - IAI44

PAGE 29

AWES 11-716 IAI44 01+112+512H25

(TANK+SRM)

(RB1143) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BREF = 38.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

RUN NO. 0/ 0 RM/L = 4.45 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	-8.260	0.14000	.12260	.02320	.19000	.07160	.21970	-.05940	.00820
0.000	-4.130	0.16000	.13350	.01380	.18220	.06980	.11020	-.02940	.00460
0.000	.000	0.16000	.15290	.01630	.17660	.07060	.00160	-.00200	-.00350
0.000	4.180	0.15000	.15730	.00980	.18190	.06750	-.10180	.02510	-.00560
0.000	0.360	0.22000	.15410	.00500	.19260	.07210	-.22750	.06070	-.00810
GRADIENT		-.00121	.00046	-.00048	-.00003	-.00026	-.02551	.00656	-.00123

PARAMETRIC DATA

MACH = .853 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

AWES 11-716 IAI44 01+112+512H25

(TANK+SRM)

(RB1144) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BREF = 38.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

RUN NO. 0/ 0 RM/L = 4.49 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-8.000	-8.190	-8.59000	-.29100	-.02170	.20890	.07050	.13370	-.00790	-.02370
-8.000	-4.080	-8.55000	-.26580	-.03500	.20020	.07500	.07370	-.01060	-.01340
-8.000	.020	-8.52000	-.25920	-.02750	.19320	.08100	.00220	-.00040	.00030
-8.000	4.100	-8.54000	-.24740	-.03880	.20150	.07690	-.06240	.00790	.01400
-8.000	0.220	-8.57000	-.25410	-.03980	.20970	.07870	-.11950	.00640	.02630
GRADIENT		.00123	.00225	-.00098	.00016	.00023	-.01664	.00226	.00333

PARAMETRIC DATA

MACH = .900 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

RUN NO. 0/ 0 RM/L = 4.49 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-8.230	-4.50000	-.18190	-.01190	.20870	.08070	.14380	-.01370	-.01810
-4.000	-4.120	-4.39000	-.15480	-.01810	.19800	.08280	.07380	-.01140	-.00860
-4.000	.000	-4.24000	-.15560	-.01190	.19110	.08730	.00290	-.00190	.00020
-4.000	4.100	-4.29000	-.14280	-.02450	.19870	.08500	-.06380	.00840	.00920
-4.000	0.220	-4.31000	-.14240	-.02870	.20890	.08700	-.13020	.01250	.01800
GRADIENT		.00732	.00146	-.00078	.00008	.00027	-.01698	.00241	.00217

REFERENCE DATA

SREF = 2.4219 30.FT.

LREF = 38.7599 IN.

BREF = 38.7599 IN.

SCALE = .0300

XWEP = .0000 IN.

YWEP = .0000 IN.

ZWEP = 9.9999 IN.

PARAMETRIC DATA

MACH = .900

ELEVON = .000

RUDDER = .000

SPOBRK = .000

RUN NO. 0/ 0 RN/L = 4.50 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.240	-.21000	-.09000	.00150	.20840	.08240	.16460	-.02650	-.01090
.000	-4.120	-.38000	-.08010	-.00800	.19800	.08300	.08180	-.01300	-.00600
.000	.010	-.59000	-.07220	-.01340	.19330	.08230	.00490	-.00240	-.00010
.000	4.120	-.59000	-.06680	-.01740	.19900	.08540	-.06710	.00850	.00600
.000	8.240	-.57000	-.06340	-.01450	.20910	.08890	-.14820	.02210	.01080
GRADIENT		-.00121	.00161	-.00114	.00012	.00029	-.01807	.00261	.00146

RUN NO. 0/ 0 RN/L = 4.48 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.280	4.10000	.00940	-.01400	.20450	.08230	.19430	-.04390	-.00170
4.000	-4.120	4.12000	.03220	.00280	.19520	.08230	.09620	-.02370	-.00050
4.000	.010	4.00000	.03760	.00160	.19430	.08360	.00320	-.00200	-.00020
4.000	4.140	4.04000	.04240	-.00260	.19690	.08370	-.00930	.02080	.00010
4.000	8.300	4.07000	.04890	-.00140	.20650	.08690	-.18720	.04220	.00050
GRADIENT		-.00969	.00123	-.00065	.00021	.00017	-.02253	.00339	.00007

RUN NO. 0/ 0 RN/L = 4.48 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
8.000	-8.270	8.12000	.12350	.00990	.19870	.07510	.22560	-.05770	.00670
8.000	-4.130	8.11000	.15440	.00370	.19280	.07680	.11530	-.03180	.00410
8.000	.000	8.13000	.14810	.01630	.18870	.07200	.00200	-.00250	-.00060
8.000	4.180	8.15000	.15780	-.00150	.19230	.07380	-.10830	.02830	-.00480
8.000	8.360	8.21000	.16500	-.00800	.20160	.07650	-.21250	.05220	-.00730
GRADIENT		.00481	.00041	-.00063	-.00005	-.00036	-.02691	.00723	-.00137



AMES 11-716 TAI14A Q1+T12+312N25

(TANK+SRM)

(RB1145) (02 JAN 74)

REFERENCE DATA

REF = 2.4810 80.FT. XREF = .0000 IN.
 LREF = 36.7500 IN. YREF = .0000 IN.
 BREF = 36.7500 IN. ZREF = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = .949 ELEVON = .000
 RUDDER = .000 SPDRBK = .000

RUN NO. 0/0 RN/L = 4.46 GRADIENT INTERVAL = -5.00/ 5.00
 ALPHA BETA ALPHA CN CLM CA CAF CY CBL
 -8.000 -8.200 -8.56000 -29330 -02890 -23050 .07950 .14970
 -8.000 -4.091 -8.42000 -25870 -04640 .22320 .08160 .07810
 -8.000 .000 -8.41000 -24500 -05350 .22080 .08120 .00220
 -8.000 4.120 -8.53000 -24210 -05400 .22370 .08390 -06960
 -8.000 8.260 -8.56000 -25140 -04920 .23190 .19370 -013640
 GRADIENT -01342 .00202 -00092 .00006 -00028 -01799 .00257 .00363

RUN NO. 0/0 RN/L = 4.46 GRADIENT INTERVAL = -5.00/ 5.00
 ALPHA BETA ALPHA CN CLM CA CAF CY CBL
 -8.000 -8.240 -4.49000 -18030 -01630 -23370 .09240 .15380
 -4.000 -4.120 -4.38000 -15160 -02720 .22170 .09320 .07690
 -4.000 -0.020 -4.29000 -14270 -03030 .21670 .09020 .00120
 -4.000 4.110 -4.35000 -13670 -03420 .22280 .09180 -07280
 -4.000 8.260 -4.37000 -13870 -03390 .23380 .09600 -01430
 GRADIENT .00362 .00157 -00085 .00014 -00017 -01819 .00314 .00236

RUN NO. 0/0 RN/L = 4.49 GRADIENT INTERVAL = -5.00/ 5.00
 ALPHA BETA ALPHA CN CLM CA CAF CY CBL
 -8.000 -8.280 -6.10000 -10070 -00100 -23290 .09250 .17160
 -4.130 -4.130 -5.80000 -07320 -00910 -22030 .09380 .06660
 .010 .010 -5.80000 -06650 -01310 -21520 .09590 .00610
 4.120 4.120 -5.80000 -05040 -01680 -22110 .09280 -07360
 8.260 8.260 -5.90000 -06150 -01750 -23210 .09310 -01560
 GRADIENT .00000 .00155 -00093 .00010 -00012 -01942 .00370 .00149

RUN NO. 0/0 RN/L = 4.49 GRADIENT INTERVAL = -5.00/ 5.00
 ALPHA BETA ALPHA CN CLM CA CAF CY CBL
 -8.000 -8.300 4.07000 .00560 .01890 .22400 .09160 .19840
 -4.130 -4.130 4.15000 .02660 .00490 .21490 .09170 .09710
 -0.020 -0.020 4.07000 .03130 -00010 .21130 .08870 .00420
 4.150 4.150 4.07000 .03930 -00330 .21550 .08770 -09040
 8.310 8.310 4.08000 .04200 .00250 .22510 .09770 -01920
 GRADIENT -00964 -00964 .00153 -00099 .00007 -00048 -00352 .00018

DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 32

AMES 11-716 1A14A 01+T12+312M25 (TANK+SRM)

(R81145) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 50.FT. XMRP = .0000 IN.
 LREF = 30.7390 IN. YMRP = .0000 IN.
 BREF = 30.7390 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = .949 ELEVON = .000
 RUDDER = .000 SPDRBK = .000

RUN NO. 0/ 0 RN/L = 4.30 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	-0.310	0.22000	.12930	.00330	.21930	.08840	.22360	-.05450	.00630
0.000	-4.150	0.27000	.11380	-.00050	.21180	.08600	.11660	-.03220	.00420
0.000	.010	0.31000	.14950	.01340	.20900	.06190	-.00020	-.00100	-.00040
0.000	4.210	0.27000	.16240	-.00320	.21010	.08210	-.11340	.03140	-.00460
0.000	0.420	0.24000	.16450	-.01280	.22030	.08580	-.21830	.05290	-.00710
GRADIENT		-.00002	.00179	-.00057	-.00020	-.00047	-.02751	.00761	-.00105

REFERENCE DATA

SREF = 2.4210 50.FT. XMRP = .0000 IN.
 LREF = 30.7390 IN. YMRP = .0000 IN.
 BREF = 30.7390 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = .975 ELEVON = .000
 RUDDER = .000 SPDRBK = .000

RUN NO. 0/ 0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-0.000	-0.210	-0.67000	-.29320	-.03350	.24670	.19090	.15420	-.01140	-.02770
-0.000	-4.110	-0.63000	-.25530	-.05780	.23800	.08660	.07640	-.00930	-.01430
-0.000	.000	-0.55000	-.24230	-.06320	.23680	.08830	-.00500	.00140	.00040
-0.000	4.120	-0.60000	-.24440	-.06380	.23820	.09080	-.07290	.00940	.01530
-0.000	0.270	-0.63000	-.25580	-.05670	.24770	.20680	-.14300	.01190	.02810
GRADIENT		.00364	.00132	-.00069	.00032	.00051	-.01814	.00227	.00360

RUN NO. 0/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-0.230	-4.39000	-.17580	-.02240	.23110	.09930	.16090	-.01820	-.01970
-4.000	-4.110	-4.36000	-.14350	-.03960	.23930	.10020	.07960	-.01250	-.01020
-4.000	-.010	-4.27000	-.13390	-.04030	.23440	.10060	.00250	-.00080	.00000
-4.000	4.120	-4.40000	-.12890	-.04650	.23970	.10310	-.06800	.01030	.01040
-4.000	0.240	-4.41000	-.13310	-.04370	.24870	.03730	-.14340	.01690	.01970
GRADIENT		-.00469	.00177	-.00085	.00005	.00035	-.01795	.00277	.00250



DATE 18 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 33

AMES 11-716 1A14A OR+112+312+25

(TANK+SRM)

(R01148) (02 JAN 74)

REFERENCE DATA

REF = 8.4810 30-FT. XMRP = .0000 IN.
 LREF = 30.7000 IN. YMRP = .0000 IN.
 RREF = 30.7000 IN. ZMRP = 3.9900 IN.
 SCALE = .0000

MACH = .975 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

PARAMETRIC DATA

RUN NO. 0/ 0 RW/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CBL
.000	-8.290	-61000	-99810	-.00140	.24790	.09970	.17470	-.01190
.370	-4.130	-59000	-.06710	-.01480	.23830	.10360	.08730	-.00640
.000	.010	-59000	-.05910	-.01750	.23400	.10320	.00440	-.00210
.000	4.110	-59000	-.05190	-.02290	.23680	.10230	-.07370	.00610
.000	8.260	-59000	-.05560	-.02140	.24510	.20500	-.15950	.01130
GRADIENT		.00000	.00184	-.00098	-.00016	-.00016	-.01978	.00152

RUN NO. 0/ 0 RW/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CBL
.000	-8.290	4.02000	.00180	.02370	.24000	.09870	.20710	-.00140
.400	-4.150	4.03000	.03350	.00420	.23240	.10220	.10310	-.00100
.000	.000	4.02000	.03740	-.00020	.23000	.10150	.00330	-.00260
.400	4.160	4.01000	.03970	-.00070	.23510	.09750	-.09510	.00060
.000	8.320	4.03000	.04220	.00400	.24100	.10510	-.19740	.00070
GRADIENT		-.00241	.00075	-.00059	.00033	-.00057	-.02385	.00019

RUN NO. 0/ 0 RW/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CBL
.000	-8.290	8.08000	.12130	.00370	.23410	.09280	.22400	-.00330
.000	-4.140	8.09000	.13210	-.00010	.22570	.05340	.11770	.00410
.000	.080	8.07000	.13230	.01100	.22270	.08980	-.07310	.03550
.000	4.210	8.16000	.16440	-.00790	.22620	.08700	-.11250	-.00470
.000	8.380	8.11000	.15520	.01370	.23700	.08780	-.21720	-.00660
GRADIENT		.01555	.00140	.00092	.00006	-.00077	-.02763	-.00105

ORIGINAL PAGE IS
 OF POOR QUALITY

AMES 11-716 1-14A 01+T12+312H25

(TANK+SRM)

(RB1147) (02 JAN 74)

REFERENCE DATA

SRF = 2.4210 50 FT. XMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 BRP = 30.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.049 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-6.000	-8.250	-8.73000	-2.9940	-0.4410	.27520	.12020	.15760	-.00430	-.02940
-8.000	-4.120	-8.69000	-.2630	-.06410	.26470	.11370	.07920	-.00300	-.01360
-8.000	.000	-8.68000	-.2490	-.07010	.26180	.11460	.07030	-.00120	.00010
-8.000	4.150	-8.68000	-.2450	-.07290	.26410	.11650	-.07010	.00450	.01610
-8.000	8.320	-8.72000	-.2570	-.06840	.27430	.22120	-.14810	.00690	.02980
	GRADIENT	.00121	.00211	-.00106	-.00007	.00010	-.01809	.00115	.00383

RUN NO. 0/0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-6.000	-8.300	-4.34000	-1.7910	-.02630	.27650	.12720	.15380	-.01140	-.02100
-4.000	-4.110	-4.38000	-.1430	-.04410	.26560	.12360	.07520	-.00790	-.01100
-4.000	.000	-4.38000	-.13710	-.04690	.26170	.12460	-.00070	.00080	.00000
-4.000	4.120	-4.38000	-.1290	-.05310	.26560	.12360	-.06880	.00740	.01140
-4.000	8.270	-4.40000	-.13360	-.05220	.27280	.12210	-.14090	.01150	.02130
	GRADIENT	-.00729	.00169	-.00109	.00000	-.00000	-.01750	.00186	.00272

RUN NO. 0/0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-6.000	-8.320	-3.31000	-.09700	-.00080	.27950	.12730	.17370	-.02350	-.01240
-4.000	-4.160	-3.29000	-.06090	-.01630	.26630	.12870	.08450	-.01420	-.00680
-4.000	.020	-3.61000	-.06120	-.01730	.26320	.12990	-.00290	.00060	.00000
-4.000	4.140	-3.20000	-.04330	-.02460	.26410	.12540	-.07990	.01440	.00550
-4.000	8.290	-3.21000	-.04780	-.02360	.27390	.12640	-.10340	.02620	.01190
	GRADIENT	.01063	.00187	-.00100	-.00027	-.00040	-.01976	.00345	.00160

RUN NO. 0/0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-6.000	-8.310	4.03000	-.00110	.00810	.26780	.11790	.20820	-.04740	-.00170
-4.000	-4.140	4.04000	.03690	.00380	.26150	.12580	.10130	-.02460	-.00130
-4.000	.010	4.04000	.03870	.00360	.25780	.12620	.00190	-.00130	-.00030
-4.000	4.180	4.03000	.04320	-.00290	.26170	.12320	-.09610	.02390	.00000
-4.000	8.360	4.04000	.04150	.00360	.26900	.12900	-.20280	.04640	.00140
	GRADIENT	-.00120	.00261	-.00076	.00002	-.00031	-.02397	.00183	.00026



DATE 18 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 33

AWES 11-716 1A14A 01+T12+312N25

(TANK+SRM)

(RB1147) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BRP = 38.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

RUN NO. 0/0 RM/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
8.000	-8.310	8.10000	.12060	.00500	.26280	.11850	.22750	-.05470	.00530
8.000	-4.180	8.18000	.14850	.00540	.25740	.12040	.11010	-.02720	.00310
8.000	.000	8.20000	.15660	.00930	.24760	.11820	.00050	-.00260	-.00060
8.000	4.230	8.10000	.15180	.00150	.25840	.11590	-.10390	.02450	-.00360
8.000	8.420	8.10000	.15690	-.01620	.26300	.11400	-.22000	.05190	-.00630
GRADIENT		-.00122	.00039	-.00047	.00013	-.00054	-.02550	.00616	-.00080

MACH = 1.049 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

PARAMETRIC DATA

AWES 11-716 1A14A 01+T12+312N25

(TANK+SRM)

(RB1148) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BRP = 38.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

RUN NO. 0/0 RM/L = 3.98 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
8.000	-8.260	8.60000	-.30610	-.04170	.28600	.13290	.16350	-.00840	-.02970
8.000	.020	8.61000	-.25920	-.06130	.27760	.12620	-.00790	.00250	.00030
8.000	4.130	8.63000	-.25580	-.06660	.27840	.13350	-.07710	.00760	.01670
8.000	8.330	8.66000	-.25860	-.06850	.28470	.23440	-.13410	.01090	.00030
GRADIENT		-.00487	.00081	-.00129	.00019	.00173	-.01684	.00124	.00399

MACH = 1.101 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

PARAMETRIC DATA

RUN NO. 0/0 RM/L = 3.98 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
8.000	-8.280	8.45000	-.19160	-.02220	.28680	.13600	.15960	-.01430	-.02200
8.000	-4.120	8.43000	-.15610	-.03700	.27850	.13390	.07660	-.00860	-.01170
8.000	.020	8.44000	-.14810	-.03840	.27600	.13740	-.00010	.00030	.00000
8.000	4.190	8.44000	-.13750	-.04660	.27810	.13740	-.06830	.00680	.01170
8.000	8.270	8.45000	-.13970	-.04900	.28310	.13750	-.14450	.01390	.02180
GRADIENT		-.01069	.00227	-.00106	-.00005	.00042	-.01732	.00186	.00283

TABULATED SOURCE DATA - 1A14A

DATE 10 JAN 75

(R81148) (02 JAN 74)

(TANK+SRM)

AWES 11-716 1A14A 01+112+312+25

REFERENCE DATA

SRF = 2.4210 50.FT. XMRP = .0000 IN.
LREF = 30.7099 IN. YMRP = .0000 IN.
BRF = 30.7099 IN. ZMRP = 9.9999 IN.
SCALE = .0300

PARAMETRIC DATA

MACH = 1.101 ELEVON = .000
RUDDER = .000 SPOBRK = .000

RUN NO.		D/ D		RM/L = 3.98		GRADIENT INTERVAL = -5.00/ 5.00	
ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY
.000	-8.320	-6.4000	-1.0970	.00080	.28620	.13740	.17760
.000	-4.140	-6.2000	-0.7540	-.01290	.27690	.14000	.08200
.000	.000	-6.1000	-0.7140	-.00990	.27510	.14270	-.00150
.000	4.140	-6.1000	-0.5880	-.02000	.27610	.13960	-.08210
.000	8.290	-6.2000	-0.5670	-.02430	.26550	.14190	-.16960
GRADIENT		.05121	.00200	-.00092	-.00010	-.00005	-.01982

RUN NO.		D/ D		RM/L = 3.98		GRADIENT INTERVAL = -5.00/ 5.00	
ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY
.000	-8.450	4.08000	-.00660	.03060	.26000	.13180	.21580
.000	-4.150	4.09000	.02720	.00840	.27240	.13750	.10290
.000	.000	4.12000	.02930	.00950	.26460	.13800	.00130
.000	4.170	4.11000	.03830	.00090	.27240	.13490	-.09870
.000	8.360	4.11000	.03930	.00400	.26100	.14270	-.20800
GRADIENT		.00240	.00133	-.00090	.00000	-.00031	-.02425

RUN NO.		D/ D		RM/L = 3.97		GRADIENT INTERVAL = -5.00/ 5.00	
ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY
.000	-4.150	8.29000	.14010	.00850	.26760	.13260	.10850
.000	.010	8.29000	.14590	.01570	.25630	.13040	-.00100
.000	4.220	8.24000	.14460	.00510	.26790	.12830	-.10850
.000	8.410	8.18000	.15310	-.01340	.27570	.13320	-.23090
GRADIENT		-.00122	.00054	-.00041	.00004	-.00031	-.02593



DATE 10 JAN 75 TABULATED SOURCE DATA - 1A14A

(RU1149) (02 JAN 74)

AWES 11-716 1A14A 01+712+512H25 (TANK+SRM)

REFERENCE DATA

SREF = 2.4210 30.FT. XMRP = .0000 IN.
 LREF = 36.7090 IN. YMRP = .0000 IN.
 BREF = 36.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.150 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RM/L = 3.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-8.000	-8.230	-8.57000	-31610	-03260	.27920	.13460	.16000	-00900	-02940
-8.000	-4.090	-8.59000	-27430	-03700	.27320	.13210	.07250	-00470	-01380
-8.000	.010	-8.53000	-25940	-06300	.27230	.13200	-00350	.00330	-00020
-8.000	4.120	-8.54000	-26060	-06410	.27300	.13820	-00660	.00930	.01820
-8.000	8.280	-8.57000	-27210	-05990	.27600	.13670	-01490	.01370	.03020
	GRADIENT	.00122	.00179	-00086	-00002	.00074	-01719	.00171	.00390

RUN NO. 0/0 RM/L = 3.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-8.260	-4.41000	-19800	-01300	.26060	.14080	.15660	-01470	-02160
-4.000	-4.210	-4.32000	-15720	-03380	.27100	.14000	.07990	-00920	-01140
-4.000	.010	-4.32000	-14770	-04010	.26950	.14200	-00130	.00090	-00010
-4.000	4.110	-4.32000	-14440	-04280	.27330	.14180	-07330	.01060	.01160
-4.000	8.260	-4.33000	-15050	-04030	.27770	.14520	-01470	.01670	.02170
	GRADIENT	.00000	.00134	-00108	-00009	.00022	-01793	.00238	.00276

RUN NO. 0/0 RM/L = 3.74 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.270	-6.10000	-11500	.00960	.28090	.14210	.17910	-02920	-01350
.000	-4.120	-5.90000	-07810	-00690	.27150	.14330	.08650	-01720	-00720
.000	.000	-5.80000	-06410	-01050	.27070	.14970	.00080	-00040	-00060
.000	4.120	-5.90000	-06260	-01540	.26980	.14660	-07800	.01650	.00630
.000	8.260	-5.90000	-06460	-01650	.28030	.14910	-01660	.02950	.01280
	GRADIENT	.00000	.00188	-00104	-00021	.00040	-01998	.00409	.00164

RUN NO. 0/0 RM/L = 3.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.280	4.06000	-01050	.03660	.27600	.13760	.20920	-04940	-00220
4.000	-4.110	3.96000	-02700	.01340	.26780	.14140	.10070	-02680	-00120
4.000	.010	3.96000	.03410	.00840	.26360	.14550	.00010	.00000	-00030
4.000	4.150	3.99000	.03440	.00370	.26770	.14510	-00710	.02630	.00080
4.000	8.320	3.99000	.02970	.01050	.27700	.14850	-02270	.04860	.00170
	GRADIENT	.00363	.00090	-00093	-00001	.00045	-02395	.00045	.00024

ORIGINAL PAGE IS
 OF POOR QUALITY

DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 38

AMES 11-716 1A14A 01+712+512+25

(TANK+SRM)

(R01140) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 30.FT. XMRP = .0000 IN.
 LREF = 38.7390 IN. YMRP = .0000 IN.
 BREF = 38.7390 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.150 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

RUN NO. 0/ 0 RN/L = 3.72 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLW	CA	CAF	CY	CYN	CBL
0.000	-0.280	0.11000	.10750	.01890	.27090	.13680	.22980	-.05820	.00490
0.000	-4.140	0.10000	.13330	.01510	.26330	.13740	.10310	-.02580	.00310
0.000	.010	0.20000	.14930	.00820	.25600	.13780	-.00020	.00080	-.00010
0.000	4.180	0.18000	.14030	.01100	.26350	.13820	-.10480	.02810	-.03350
0.000	0.390	0.14000	.14930	-.00800	.27120	.13930	-.22630	.05820	-.03590
	GRADIENT	.00960	.00060	-.00049	-.00003	.00010	-.02499	.00648	-.00079

AMES 11-716 1A14A 01+712+512+25

(TANK+SRM)

(R01150) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 30.FT. XMRP = .0000 IN.
 LREF = 38.7390 IN. YMRP = .0000 IN.
 BREF = 38.7390 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.247 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

RUN NO. 0/ 0 RN/L = 2.76 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLW	CA	CAF	CY	CYN	CBL
-0.000	-0.100	-0.56000	-.33370	-.02370	.27270	.14180	.14760	.00190	-.02980
-0.000	-4.080	-0.52000	-.29830	-.03960	.26480	.14120	.07590	-.00130	-.01620
-0.000	.000	-0.51000	-.27340	-.03350	.26090	.13910	.00330	-.00110	-.00040
-0.000	4.110	-0.52000	-.27320	-.03580	.26380	.14510	-.05760	-.00290	.01660
-0.000	0.220	-0.55000	-.29010	-.04960	.27070	.14650	-.13140	-.00050	.02980
	GRADIENT	-.00000	.00282	-.00198	-.00012	.00048	-.01630	-.00020	.00401

RUN NO. 0/ 0 RN/L = 2.75 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLW	CA	CAF	CY	CYN	CBL
-4.000	-0.180	-4.28000	-.20340	-.00830	.27880	.14410	.14480	-.00430	-.02090
-4.000	-4.090	-4.26000	-.16870	-.02800	.26820	.14980	.06930	-.00190	-.01110
-4.000	.020	-4.25000	-.15800	-.02930	.28130	.14790	.00310	-.00160	-.00010
-4.000	4.100	-4.28000	-.15070	-.03500	.26990	.15230	-.06950	-.00010	.01190
-4.000	0.170	-4.27000	-.15650	-.03360	.27480	.15370	-.12420	.00360	.02110
	GRADIENT	.00000	.00195	-.00110	-.00004	.00030	-.01585	.00022	.00275



DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 30

AMES 11-716 1A14A 01-712-SIEN25

(TANK+SRH)

(RB1150) (02 JAN 74)

REFERENCE DATA

SREF = 8.4810 30-FT. XMRP = .0000 IN.
LREF = 30.7090 IN. YMRP = .0000 IN.
BREF = 30.7090 IN. ZMRP = 9.9900 IN.
SCALE = .0300

PARAMETRIC DATA

MACH = 1.247 ELEVON = .000
RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RM/L = 2.75 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.200	-.5000	-.11800	.01420	.27660	.14820	.16720	-.02000	-.01310
.000	-4.100	-.5000	-.08020	-.00000	.26630	.15150	.08150	-.01050	-.00630
.000	.010	-.52000	-.06800	-.00300	.26170	.15460	.00120	-.00000	-.00020
.000	4.100	-.52000	-.06480	-.00750	.26570	.15100	-.07290	.00670	.00600
.000	8.100	-.54000	-.07040	-.01120	.27680	.15690	-.15490	.01850	.01290
GRADIENT		.00122	.00188	-.00085	-.00007	-.00006	-.01883	.00210	.00150

RUN NO. 0/0 RM/L = 2.75 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.220	3.97000	-.01890	.04360	.27470	.14270	.19840	-.03910	-.00230
.000	-4.110	3.98000	.01470	.02450	.26530	.14860	.09990	-.02100	-.00120
.000	.010	4.03000	.02340	.02080	.25900	.15160	.00310	-.00170	-.00030
.000	4.110	4.02000	.02410	.01590	.26470	.15250	-.09100	.01850	.00090
.000	8.250	4.05000	.03320	.01760	.27450	.15970	-.18900	.03810	.00180
GRADIENT		.00487	.00114	-.00105	-.00007	.00047	-.02322	.00481	.00026

RUN NO. 0/0 RM/L = 2.74 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.190	8.15000	.10320	.03100	.26810	.13870	.22140	-.05080	.00510
.000	-4.070	8.10000	.12170	.02950	.26030	.14230	.10690	-.02400	.00390
.000	.010	8.01000	.12800	.02320	.25090	.14510	.00040	-.00050	-.00020
.000	4.160	8.10000	.12350	.02450	.25970	.14490	-.10300	.00270	-.00310
.000	8.310	8.08000	.13050	.01510	.26820	.13360	-.21650	.05100	-.00580
GRADIENT		.00006	.00021	-.00060	-.00007	.00031	-.02539	.00567	-.00074

TABULATED SOURCE DATA - 1A14A

DATE 10 JAN 75

(881151) (02 JAN 74)

AWES 11-716 1A14A 01+712+312+25 (TANK+SRM)

PARAMETRIC DATA

MACH = 1.396 ELEVON = .000
RUDDER = .000 SFDORN = .000

REFERENCE DATA

SREF = 2.4210 30-FT. XMRP = .0000 IN.
LREF = 38.7393 IN. YMRP = .0000 IN.
BREF = 38.7393 IN. ZMRP = 9.9900 IN.
SCALE = .0393

RUN NO. 0/0 RH/L = 3.09 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-8.000	-8.220	-8.50000	-3.7200	.00300	.26740	.14430	.17010	-.00740	-.02910
-8.000	-4.110	-8.46000	-.32550	-.02070	.26360	.14060	.08610	-.00710	-.01580
-8.000	-.010	-8.44000	-.30320	-.03280	.25930	.14240	.00330	-.00150	-.00930
-8.000	4.130	-8.55000	-.31250	-.03160	.26050	.14970	-.07100	.00270	.01630
-8.000	8.260	-8.58000	-.33240	-.02080	.26860	.15400	-.14710	.00280	.02940
GRADIENT		-.01095	.00157	-.00132	-.00036	.00111	-.01906	.00119	.00392

RUN NO. 0/0 RH/L = 2.98 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-8.220	-4.35000	-.21590	.00070	.26920	.14790	.15910	-.00770	-.01980
-4.000	-4.110	-4.35000	-.17870	-.01740	.26330	.14940	.07440	-.00420	-.01050
-4.000	.010	-4.19000	-.16340	-.02160	.26040	.15100	.00280	-.00090	-.00030
-4.000	4.100	-4.32000	-.15870	-.02900	.26270	.15740	-.05840	-.00080	.01050
-4.000	8.230	-4.37000	-.16890	-.02910	.26940	.15980	-.13500	.00030	.02030
GRADIENT		.00370	.00244	-.00141	-.00007	.00097	-.01618	.00041	.00256

RUN NO. 0/0 RH/L = 2.98 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.260	-.58000	-.11870	.02120	.26880	.14310	.18070	-.02430	-.01180
.000	-4.100	-.57000	-.08060	.00350	.28430	.14690	.08610	-.01340	-.00530
.000	.000	-.56000	-.07020	-.00050	.26160	.15360	.00300	-.00060	-.00020
.000	4.110	-.57000	-.06800	-.00070	.26380	.16000	-.07090	.00740	.00490
.000	8.220	-.58000	-.06830	-.01070	.26950	.16700	-.13860	.01660	.01110
GRADIENT		-.00000	.00153	-.00112	-.00006	.00160	-.01912	.00253	.00124

RUN NO. 0/0 RH/L = 2.99 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.230	4.09000	-.02280	.00040	.26830	.13660	.21110	-.04780	-.00200
4.000	-4.040	4.11000	.01770	.02790	.26320	.14350	.02530	.01330	-.00010
4.000	.040	4.11000	.02460	.02200	.25900	.15270	-.02220	.01200	-.00020
4.000	4.170	4.09000	.02750	.01680	.26300	.15990	-.11570	.03330	-.00040
4.000	8.280	4.08000	.01780	.02080	.27090	.16670	-.20320	.04410	.00140
GRADIENT		-.00244	.00119	-.00135	-.00000	.00050	-.01710	.00244	-.00004

DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 41

AWES 11-716 1A14A 01+T12+S12N25

(TANK+SRW)

(RB1131) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BREF = 38.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

RUN NO. 0/ 0 RN/L = 2.98 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
8.000	-8.220	8.15000	.09930	.04500	.26250	.13940	.22070	-.05600	.03550
8.000	-4.100	8.17000	.12450	.03320	.25950	.14310	.19480	-.02440	.03400
8.000	.010	8.16000	.13320	.02210	.25270	.15050	-.01720	.00930	-.00010
8.000	4.200	8.16000	.12750	.02740	.26040	.15680	-.14220	.04570	-.00410
8.000	8.400	8.15000	.13320	.02120	.26560	.16450	-.28980	.08960	-.00610
	GRADIENT	-.00120	.00036	-.00069	.00011	.00165	-.02976	.00845	-.00098

MACH = 1.396 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

PARAMETRIC DATA

AWES 11-716 1A14A 01+T12+S12 N25+AT11 (CRBITTER)

(RB1017) (19 DEC 73)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BREF = 38.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

RUN NO. 40/ 0 RN/L = 3.49 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CLM	CA	CAF	CY	CYN	CBL
.898	-8.170	.03000	-.25180	.21270	.09650	.05080	-.00260	.00260	-.00107
.898	-4.140	.03000	-.08950	.09567	.08250	.05000	-.00360	.00290	-.00083
.898	-.220	.04000	.06570	-.01257	.08690	.04630	-.00190	.00160	-.00049
.898	3.830	.04000	.20150	-.10635	.08080	.04220	-.00079	.00040	-.00038
.898	8.030	.04000	.30090	-.17416	.07650	.04140	-.00210	.00110	.00006
	GRADIENT	.00125	.03650	-.02534	-.00147	-.00098	.00036	-.00031	.00006

BETA = .000 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

PARAMETRIC DATA

RUN NO. 93/ 0 RN/L = 2.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CLM	CA	CAF	CY	CYN	CBL
.977	-7.920	.03000	-.27610	.24771	.13370	.07680	-.00280	.00250	-.00082
.977	-3.880	.04000	-.10400	.11968	.07380	.07380	-.00380	.00300	-.00098
.977	.090	.04000	.05830	.00276	.12190	.07050	-.00260	.00170	-.00117
	GRADIENT	.00000	.04088	-.12945	-.00128	-.00083	.00030	-.00033	-.00005

AWES 11-716 1A14A 01+T12+S12 N23+AT11 (CRBITTER)

(R01017) (19 DEC 73)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BREF = 38.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

BETA = .000 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

RUN NO. 92/ 0 RN/L = 2.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CLM	CA	CAF	CY	CYN	CBL
1.102	-7.940	.04000	-.20410	.26066	.19290	.09670	-.00340	.00300	-.00070
1.102	-3.890	.04000	-.11620	.13798	.14560	.09290	-.00360	.00310	-.00100
1.102	.090	.04000	.05500	.01369	.14100	.09120	-.00280	.00170	-.00102
1.102	4.060	.03000	.21770	-.10537	.13650	.08790	-.00120	.00090	-.00091
1.102	8.020	.04000	.34880	-.20139	.13100	.08290	-.00170	.00090	-.00114
	GRADIENT	-.00125	.04200	-.03061	-.00114	-.00056	.00033	-.00033	.00002

RUN NO. 89/ 0 RN/L = 2.74 GRADIENT INTERVAL = -5.00/ 5.00

MACH	ALPHA	BETA	CN	CLM	CA	CAF	CY	CYN	CBL
1.248	-7.940	.04000	-.24010	.22546	.19290	.10430	-.00240	.00240	-.00022
1.248	-3.840	.04000	-.06720	.09416	.14630	.10200	-.00270	.00250	-.00060
1.248	.050	.04000	.09670	-.02803	.14130	.09660	-.00160	.00130	-.00041
1.248	4.010	.04000	.24370	-.13416	.13770	.09800	.00090	-.00090	.00043
1.248	7.930	.04000	.35890	-.21675	.12960	.09210	.00070	-.00090	.00008
	GRADIENT	-.00000	.03960	-.02908	-.00109	-.00031	.00046	-.00043	.00013

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BREF = 38.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

ALPHA = .000 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

AWES 11-716 1A14A 01+T12+S12 N23+AT11 (CRBITTER)

(R01018) (19 DEC 73)

RUN NO. 41/ 0 RN/L = 3.49 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.890	-8.060	-.30000	.10900	-.04252	.08670	.04430	.19210	-.13170	.06468
.890	-4.010	-.31000	.08540	-.02821	.08600	.04600	.10360	-.07240	.03454
.890	.030	-.31000	.06650	-.01307	.08770	.04760	.00140	-.00040	.00066
.890	4.100	-.31000	.07450	-.02201	.08790	.04660	-.10220	.07290	-.03336
.890	8.130	-.32000	.07100	-.02085	.08700	.04570	-.19880	.13810	-.06491
	GRADIENT	-.00000	-.00134	.00076	.00023	.00017	-.02536	.01767	-.00837



DATE 19 JAN 73

TABULATED SOURCE DATA - TAI14A

PAGE 43

AMES 11-716 TAI14A OR+T12+512 N25+AT11 (ORBITER)

(RB1018) (19 DEC 73)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 BREF = 30.7090 IN. ZMRP = 0.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

ALPHA = .000 ELEVON = .000
 RUDDER = .000 SPDRK = .000

RUN NO. 94/ 0 RN/L = 2.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.978	-8.050	-3.0000	.09400	-.02047	.12100	.06950	.19320	-.13300	.07286
.978	-4.010	-3.1000	.07280	-.00862	.12060	.07160	.09640	-.06700	.03668
.978	.340	-3.2000	.04730	.01031	.12250	.07120	.09010	-.00020	-.00007
.978	4.070	-3.2000	.04780	.00807	.11960	.07280	-.09880	.06930	-.03640
.978	8.120	-3.2000	.05140	.00342	.11440	.06860	-.20160	.14030	-.07293
	GRADIENT	-.00124	-.00310	.00207	-.00015	.00015	-.02416	.01687	-.00904

RUN NO. 91/ 0 RN/L = 2.99 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
1.102	-8.090	-3.1000	.09020	-.00856	.14430	.09080	.18090	-.11960	.07749
1.102	-4.010	-3.2000	.06050	.01016	.14760	.09360	.08930	-.03970	.03985
1.102	.030	-3.3000	.04310	.02228	.14250	.09210	.09020	-.00010	.00355
1.102	4.090	-3.3000	.04590	.01774	.14080	.09180	-.09340	.06300	-.03990
1.102	8.130	-3.3000	.05280	.00953	.13650	.09130	-.19130	.12700	-.07767
	GRADIENT	-.00123	-.00180	.00093	-.00035	-.00022	-.02256	.01515	-.00985

RUN NO. 90/ 0 RN/L = 2.74 GRADIENT INTERVAL = -5.00/ 5.00

MACH	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
1.252	-8.080	-3.4000	.12950	-.04585	.14280	.09910	.16960	-.10900	.07227
1.252	-4.030	-3.4000	.09900	-.02793	.14210	.10180	.08370	-.05330	.03740
1.252	.030	-3.5000	.08470	-.01894	.14320	.09990	.09130	-.00050	.00104
1.252	4.090	-3.5000	.08200	-.01799	.14070	.10050	-.08470	.05500	-.03586
1.252	8.150	-3.6000	.08090	-.01902	.13670	.09840	-.17460	.11230	-.07176
	GRADIENT	-.00123	-.00209	.00122	-.00017	-.00016	-.02074	.01334	-.00902

ORIGINAL PAGE IS
 OF POOR QUALITY

DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 44

AWES 11-716 1A14A 01+112+512 N25+AT11 (ORBITER)

(RB1030) (19 DEC 73)

REFERENCE DATA

SREF = 2.4210 50.FT. XMRP = .0000 IN.
 LREF = 30.7000 IN. YMRP = .0000 IN.
 BREF = 30.7000 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

BETA = .000 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

RUN NO. 62/ 0 RN/L = 3.47 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	MACH	BETA	CN	CLM	CA	CAF	CY	CYN	CBL
-.330	.972	.04000	.04630	.01035	.12110	.06990	-.00260	.00180	-.00127
-.330	1.002	.04000	.02290	.03393	.13030	.07610	-.00230	.00170	-.00099
-.320	1.025	.04000	.02600	.03321	.13100	.07960	-.00070	.00030	-.00036
	GRADIENT	-.00000	-.40269	.44091	.20700	.18419	.03457	-.02706	.01204

AWES 11-716 1A14A 01+112+512 N25+AT11 (ORBITER)

(RB1034) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 50.FT. XMRP = .0000 IN.
 LREF = 30.7000 IN. YMRP = .0000 IN.
 BREF = 30.7000 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = .597 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

RUN NO. 0/ 0 RN/L = 3.97 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-0.000	-7.900	-0.01000	-.24530	.19668	.05000	.02310	.20110	-.13100	.06080
-0.000	-3.900	-7.99000	-.26590	.21100	.06160	.02460	.10200	-.06740	.03132
-0.000	.030	-7.99000	-.26020	.21100	.05010	.02440	-.00080	.00130	-.00031
-0.000	4.000	-8.07000	-.27550	.21504	.06060	.02370	-.11060	.07470	-.03244
-0.000	0.130	-8.02000	-.26730	.20676	.05720	.01950	-.21670	.14390	-.06373
	GRADIENT	-.00124	-.00119	.00000	-.00012	-.00011	-.02635	.01761	-.00790

RUN NO. 0/ 0 RN/L = 3.96 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-0.030	-4.05000	-.09690	.09345	.05070	.02240	.10200	-.12140	.05770
-4.000	-4.000	-4.05000	-.12170	.11126	.06260	.02570	.09270	-.06100	.03012
-4.000	.040	-4.05000	-.13240	.11692	.05780	.02600	-.00200	.00240	-.00032
-4.000	4.070	-4.06000	-.12840	.11270	.06160	.02570	-.10070	.06070	-.03369
	GRADIENT	-0.000	-.12710	.10927	.04800	.02060	-.20170	.13550	-.06175
			-.00124	.00010	-.00012	.00000	-.02397	.01617	-.00756



DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 45

AMES 11-716 1A14A 01+T12+S12 M23+AT11 (ORBITER)

(R01034) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 ORF = 30.7090 IN. ZMRP = 9.9990 IN.
 SCALE = .0000

PARAMETRIC DATA

MACH = .597 ELEVON = .000
 RUDDER = .000 SPDRK = .000

RUN NO. 0/ 0 RN/L = 3.97 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.030	-31000	.01600	.01900	.03340	.01920	.16550	-.11070	.03811
.000	-4.010	-32000	-.00740	.03373	.05960	.02610	.06110	-.05420	.02803
.000	.030	-.00930	-.00930	.03292	.05470	.02450	-.00430	.00320	-.00091
.000	4.080	-32000	-.01260	.03456	.05930	.02300	-.09510	.06880	-.03100
.000	9.110	-32000	-.00610	.02604	.05440	.01780	-.18690	.12660	-.06104
GRADIENT		-.00000	-.00064	.00010	-.00004	-.00038	-.02190	.01480	-.00730

RUN NO. 0/ 0 RN/L = 3.96 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.030	4.00000	.14400	-.07180	.04270	.00940	.14810	-.05990	.03612
.000	-3.980	4.00000	.12330	-.05589	.04810	.01650	.07090	-.04760	.02700
.000	.030	4.00000	.11530	-.05013	.04910	.01740	-.00440	.00310	-.00104
.000	4.080	3.99000	.11040	-.04943	.04830	.01400	-.08270	.03640	-.02914
.000	8.140	3.98000	.11240	-.05588	.04270	.00800	-.16470	.11240	-.05881
GRADIENT		-.00124	-.00160	.00080	.00002	-.00031	-.01906	.01290	-.00697

RUN NO. 0/ 0 RN/L = 3.96 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.010	7.89000	.26090	-.15284	.02890	-.00380	.12270	-.08300	.03337
.000	-4.010	7.90000	.23840	-.13748	.03340	.00340	.06020	-.04040	.02574
.000	.040	7.91000	.23590	-.13639	.03260	.00650	-.00330	.00220	-.00115
.000	4.100	7.90000	.23360	-.13623	.03320	.00070	-.06760	.04620	-.02745
.000	8.170	7.88000	.23500	-.14113	.03010	-.00470	-.13810	.09480	-.05634
GRADIENT		-.00000	-.00057	.00015	-.00002	-.00033	-.01576	.01068	-.00656

AMES 11-716 1A16A 01-112-512 M25+AT11 (28BITER)

(181035) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 38.7500 IN. YMRP = .0000 IN.
 BREF = 38.7500 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = .749 ELEVON = .000
 RUDDER = .000 SPDRK = .000

RUN NO. 0/ 0 RH/L = 3.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLW	CA	CAF	CY	CYN	CBL
-8.000	-8.000	-8.05000	-.22135	.18264	.06720	.02760	.20550	-.13480	.06094
-8.000	-3.990	-8.04000	-.24749	.20584	.07030	.03150	.10120	-.06740	.03012
-8.000	.040	-8.04000	-.26810	.21588	.07160	.03110	-.00380	.00350	-.00148
-8.000	4.000	-8.05000	-.26420	.21070	.07170	.03250	-.11460	.07800	-.03408
-8.000	8.150	-8.06000	-.25130	.19862	.06790	.02800	-.22720	.15140	-.06634
	GRADIENT	-.00124	-.00208	.00122	.00017	.00012	-.02674	.01802	-.00795

RUN NO. 0/ 0 RH/L = 3.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLW	CA	CAF	CY	CYN	CBL
-4.000	-8.040	-4.07000	-.06440	.07294	.06640	.02700	.18820	-.12390	.05877
-4.000	-4.000	-4.08000	-.10130	.09850	.06780	.03070	.09260	-.06240	.02950
-4.000	.040	-4.08000	-.11040	.10433	.06600	.03160	-.00320	.00280	-.00053
-4.000	4.000	-4.08000	-.11150	.10376	.06960	.03160	-.10640	.07320	-.03286
-4.000	8.150	-4.09000	-.09953	.09288	.06580	.02750	-.20390	.13920	-.06294
	GRADIENT	.00000	-.00126	.00065	.00022	.00011	-.02460	.01676	-.00771

RUN NO. 0/ 0 RH/L = 3.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLW	CA	CAF	CY	CYN	CBL
.000	-8.080	-.31000	.05420	-.00806	.06020	.02320	.17760	-.11960	.06013
.000	-4.010	-.32000	.02260	.01421	.06360	.02840	.08920	-.06030	.03032
.000	.050	-.33000	.00560	.02670	.06510	.03020	-.00280	.00240	-.00062
.000	4.080	-.32000	.01360	.01822	.06480	.02760	-.09520	.06580	-.03107
.000	8.150	-.32000	.02050	.01051	.06010	.02440	-.18950	.12900	-.06151
	GRADIENT	-.00000	-.00112	.00050	.00015	-.00010	-.02279	.01559	-.00759

RUN NO. 0/ 0 RH/L = 3.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLW	CA	CAF	CY	CYN	CBL
4.000	-8.060	4.02000	.18220	-.09606	.04070	.01320	.15510	-.10520	.05903
4.000	-4.050	4.02000	.15165	-.07421	.05190	.01920	.07550	-.05140	.02859
4.000	.040	4.02000	.13080	-.06442	.05300	.01990	-.00290	.00210	-.00085
4.000	5.100	4.01000	.14290	-.07141	.05190	.01630	-.10660	.07360	-.03831
4.000	8.180	4.00000	.14480	-.07540	.04920	.01360	-.16390	.11580	-.06759
	GRADIENT	.00000	-.00314	.00240	.00027	.00017	-.01326	.01114	-.00723



(RB1035) (02 JAN 74)

AMES 11-716 1A14A 01+T12+S12 N23+AT11 (ORBITER)

PARAMETRIC DATA

MACH = .749 ELEVON = .000
RUDDER = .000 SFCBRK = .000

REFERENCE DATA

SREF = 2.4210 SQ.FT. XREF = .0000 IN.
LREF = 30.7050 IN. YREF = .0000 IN.
BREF = 30.7050 IN. ZREF = 9.9900 IN.
SCALE = .0300

RUN NO.		O/ O		RM/L = 3.73		GRADIENT INTERVAL = -5.00/ 5.00	
ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY
0.000	-0.040	7.93000	.29470	-.17405	.03740	.00000	.13400
0.000	-4.000	7.94000	.27380	-.16074	.03860	.00810	.06420
0.000	.030	7.94000	.26400	-.15311	.03950	.00920	.00350
0.000	4.110	7.93000	.26670	-.15748	.03920	.00700	-.07770
0.000	8.180	7.92000	.27070	-.16305	.04050	.00660	-.14760
GRADIENT		-.00124	-.00087	.00340	.0007	-.00014	-.01750

(RB1036) (02 JAN 74)

AMES 11-716 1A14A 01+T12+S12 N23+AT11 (ORBITER)

PARAMETRIC DATA

MACH = .849 ELEVON = .000
RUDDER = .000 SFCBRK = .000

REFERENCE DATA

SREF = 2.4210 SQ.FT. XREF = .0000 IN.
LREF = 30.7050 IN. YREF = .0000 IN.
BREF = 30.7050 IN. ZREF = 9.9900 IN.
SCALE = .0300

RUN NO.		O/ O		RM/L = 3.49		GRADIENT INTERVAL = -5.00/ 5.00	
ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY
0.000	-0.000	-0.12000	-.21070	.17944	.07960	.03860	.21690
0.000	-3.970	-0.11000	-.23790	.19811	.08220	.04110	.11030
0.000	.010	-0.07000	-.25660	.21183	.08380	.04340	-.00020
0.000	4.090	-0.06000	-.24820	.20344	.08440	.04070	-.11660
0.000	8.160	-0.10000	-.24640	.19944	.07920	.03890	-.22770
GRADIENT		.00370	-.00126	.00065	.00035	-.00005	-.02815

RUN NO.		O/ O		RM/L = 3.49		GRADIENT INTERVAL = -5.00/ 5.00	
ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY
0.000	-0.050	-3.98000	-.03970	.05901	.07870	.03720	.19780
-4.000	-3.990	-3.98000	-.07670	.06583	.07840	.03970	.10390
-4.000	.060	-3.99000	-.10670	.10571	.07870	.03870	-.00130
-4.000	4.072	-3.99000	-.09060	.09245	.08000	.03800	-.10820
-4.000	8.110	-4.00000	-.08120	.08358	.07740	.03740	-.21000
GRADIENT		-.00124	-.07131	.00083	.00020	-.00011	-.02594

CYN	CBL
-.14240	.06320
-.07350	.03257
.00100	-.00025
-.00970	-.03439
.15190	-.06596
.01901	-.00831

CYN	CBL
-.13270	.08115
-.06890	.03194
.00150	-.00014
.07540	-.03302
.14240	-.06360
.01790	-.00806

DATE 10 JAN 75

TABULATED SOURCE DATA - 1A' 4A

PAGE 10

AMES 11-716 1A14A 01+112+512 N23+4111 (ORBITER)

(R81036) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BREF = 38.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0000

PARAMETRIC DATA

MACH = .849 ELEVON = .000
 RUDDER = .000 SPOILER = .000

RUN NO. 0/0 R/H/L = 3.49 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.050	-.31000	.07790	-.02159	.07210	.03250	.18190	-.11290	.06994
.005	-3.990	-.32000	.04570	.00051	.07210	.03560	.09330	-.06230	.03370
.010	.040	-.33000	.03020	.01255	.07420	.03620	-.00190	.00180	-.00049
.015	8.130	-.33000	.04510	-.00362	.07200	.03530	-.19010	.12110	-.06176
GRADIENT		-.00248	-.00385	.00299	.00052	.00015	-.02286	.01503	-.00774

RUN NO. 0/0 R/H/L = 3.49 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-4.010	3.61000	.17990	-.00189	.06360	.02480	.08510	-.05920	.03136
.005	.040	3.61000	.16620	-.00072	.06670	.03170	-.00340	.00230	-.00048
.010	4.090	3.60000	.16850	-.00570	.06550	.03100	-.09100	.06390	-.03169
.015	8.160	3.78000	.16430	-.00564	.06300	.02770	-.17490	.12060	-.06124
GRADIENT		-.00120	-.00141	.00076	.00025	.00027	-.02174	.01420	-.00781

RUN NO. 0/0 R/H/L = 3.48 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	.030	7.94000	.28370	-.16432	.06310	.02990	-.00070	.00030	-.00018
.005	4.130	7.93000	.28960	-.17066	.06100	.02810	-.07680	.05400	-.02794
.010	8.190	7.91000	.29020	-.17390	.05890	.02570	-.15250	.10460	-.03588
GRADIENT		-.00244	.00035	-.00150	-.00051	-.00044	-.01905	.01324	-.00677



AMES 11-716 1A14A 01-719-312 MS-A111 (ORBITER)

(R81037) (08 JAN 74)

REFERENCE DATA

SREF = 2.4210 36-PT. XMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 BREF = 30.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = .995 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/ 0 RM/L = 3.25 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-8.000	-3.990	-8.00000	-25000	.22149	.11090	.07000	.12090	-.08270	.03980
-8.000	.040	-8.00000	-.26450	.23267	.12000	.06950	-.00320	.00280	-.00093
-8.000	4.090	-8.07000	-.25740	.22240	.11510	.06810	-.12710	.06840	-.03760
-8.000	8.150	-8.10000	-.24600	.20639	.10690	.06250	-.25190	.17550	-.07621
GRADIENT		-.00124	-.00081	.00011	-.00047	-.00024	-.03066	.02180	-.00912

RUN NO. 0/ 0 RM/L = 3.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-8.040	-4.00000	-.05130	.07549	.10870	.06140	.20870	-.14310	.06026
-4.000	-4.020	-4.00000	-.07560	.09176	.11260	.06510	.10760	-.07440	.03487
-4.000	.010	-4.00000	-.09340	.10591	.11550	.06790	-.00240	.00220	-.00072
-4.000	4.070	-4.00000	-.09290	.10253	.11250	.06670	-.11860	.06330	-.03711
-4.000	8.110	-4.11000	-.09510	.10250	.10850	.06490	-.22890	.19810	-.07257
GRADIENT		-.00124	-.00214	.00133	-.00001	.00020	-.02796	.01949	-.00890

RUN NO. 0/ 0 RM/L = 3.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.070	-8.00000	.10430	-.03292	.10920	.06170	.18730	-.13040	.06034
.000	.000	-.32000	.08460	-.02299	.10970	.06310	.09170	-.06450	.03387
.000	.000	-.32000	.06440	-.00815	.11140	.06340	-.00600	.00450	-.00203
.000	.000	-.32000	.06910	-.01398	.10740	.06380	-.10700	.07550	-.03721
.000	.000	-.33000	.06080	.00720	.10340	.06280	-.20630	.14370	-.07184
GRAD		.00000	-.00191	.00111	-.00026	.00009	-.02456	.01731	-.00679

RUN NO. 0/ 0 RM/L = 3.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.060	4.00000	.24940	-.13481	.10030	.05480	.17160	-.12100	.06689
4.000	-4.010	4.00000	.24110	-.13504	.10060	.05760	.08430	-.09420	.03276
4.000	.030	4.02000	.22840	-.12627	.10240	.05760	.00060	-.00040	.00045
4.000	4.100	4.02000	.22600	-.12755	.09940	.05760	.00030	.06370	-.03350
4.000	8.140	4.01000	.21500	-.11672	.09910	.05700	-.18070	.12740	-.06903
GRADIENT		-.00125	-.00161	.00095	-.00016	.00000	-.02155	.01320	-.00817

DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 90

AMES 11-716 1A14A 01+112+312 N25+AT11 (CRITTER)

(R81037) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
LREF = 36.7000 IN. YMRP = .0000 IN.
BREF = 36.7000 IN. ZMRP = 9.9900 IN.
SCALE = .0300

PARAMETRIC DATA

MACH = .935 ELEVON = .000
RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RN/L = 3.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
8.000	-8.000	7.94000	.35120	-.20619	.09070	.04980	.14150	-.09680	.03822
8.000	-4.010	7.94000	.33750	-.20179	.09380	.05240	.06960	-.04750	.02936
8.000	.040	7.94000	.32990	-.19790	.09260	.05260	-.00680	.00440	-.00075
8.000	4.110	7.93000	.32600	-.19335	.09280	.05170	-.08340	.05870	-.03154
8.000	8.180	7.92000	.31720	-.18812	.09220	.05090	-.15890	.10810	-.08041
	GRADIENT								
			-.00125	.00079	-.00012	-.00009	-.01909	.01308	-.00750

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
LREF = 36.7000 IN. YMRP = .0000 IN.
BREF = 36.7000 IN. ZMRP = 9.9900 IN.
SCALE = .0300

PARAMETRIC DATA

MACH = 1.052 ELEVON = .000
RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RN/L = 2.99 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
8.000	-8.000	8.08000	-.24280	.22995	.13970	.08370	.22080	-.14750	.07368
8.000	-4.980	8.07000	-.23360	.24208	.14020	.08680	.14280	-.09720	.04755
8.000	.030	8.06000	-.22830	.23611	.14340	.08920	.00010	.00070	.00013
8.000	4.120	8.07000	-.22530	.23514	.13810	.08620	-.12750	.08820	-.04051
8.000	8.160	8.10000	-.22010	.23002	.13300	.08470	-.24270	.16350	-.07764
	GRADIENT								
			.00007	.00149	-.00020	-.00005	-.02966	.02034	-.00967

RUN NO. 0/0 RN/L = 2.99 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
8.000	-8.040	8.08000	-.07710	.11099	.13030	.08380	.19730	-.13200	.07332
8.000	-4.020	8.09000	-.10350	.12502	.13530	.08460	.09950	-.06740	.03638
8.000	.040	8.09000	-.12110	.13839	.13790	.08570	-.00730	.03540	-.00188
8.000	4.080	8.09000	-.11620	.13311	.13450	.08610	-.11130	.07720	-.03922
8.000	8.120	8.10000	-.11510	.13153	.13340	.08510	-.21980	.14830	-.07643
	GRADIENT								
			-.00000	.00197	-.00010	.00019	-.02602	.01765	-.00933



DATE 19 JAN 73

TABULATED SOURCE DATA - 1A14A

PAGE 31

AMES 11-716 1A14A 01+712+512 N25+AT11 (ORBITER)

(R81038) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 38.7390 IN. YMRP = .0000 IN.
 BREF = 38.7390 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.032 ELEVON = .000
 RUDDER = .000 SPDRK = .000

RUN NO. 0/0 RV/L = 3.00 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.040	-.31000	.03470	-.00560	.13560	.08250	.17430	-.11720	.07320
.000	-4.010	-.32000	.03480	.01191	.13410	.08450	.08570	-.05030	.03602
.000	.040	-.33000	.03260	.02813	.13360	.08340	-.00620	.00420	-.00180
.000	4.090	-.32000	.03840	.02116	.13080	.08280	-.10310	.07100	-.04071
.000	8.130	-.33000	.04620	.01440	.12980	.08210	-.19970	.13440	-.07794
.000	GRADIENT	-.00000	-.00202	.00114	-.00041	-.00021	-.02331	.01596	-.00947

RUN NO. 0/0 RV/L = 3.00 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.050	4.02000	.24800	-.12581	.12820	.07610	.15900	-.10710	.07173
.000	-4.020	4.02000	.22440	-.11294	.12770	.07960	.07110	-.04770	.03373
.000	.030	4.02000	.21030	-.10201	.12820	.07920	.00160	-.00140	-.00009
.000	4.110	4.01000	.21030	-.10507	.12410	.07860	-.08230	.05560	-.03634
.000	8.160	4.00000	.21490	-.10841	.12200	.07660	-.17190	.11640	-.07406
.000	GRADIENT	-.00123	-.00171	.00097	-.00044	-.00012	-.01687	.01271	-.00865

RUN NO. 0/0 RV/L = 3.00 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.010	7.93000	.36930	-.21136	.11930	.07090	.13170	-.08760	.05979
.000	-3.990	7.93000	.34490	-.19977	.12180	.07470	.06330	-.04960	.02866
.000	.040	7.93000	.33180	-.19139	.12130	.07360	-.00160	.00080	-.00051
.000	4.110	7.93000	.33400	-.19378	.11710	.07330	-.06850	.04600	-.03058
.000	8.200	7.91000	.34300	-.19930	.11700	.06770	-.14290	.09670	-.06228
.000	GRADIENT	-.00000	-.00134	.00074	-.00058	-.00017	-.01590	.01069	-.00731

ORIGINAL PAGE IS
 OF POOR QUALITY

AMES 11-716 1A14A 01+112+512 N23+AT11 (ORBITER)

(RBI039) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 30. FT. XREF = .0000 IN.
 (REF = 30.7000 IN. YREF = .0000 IN.
 ORFF = 30.7000 IN. ZREF = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.134 ELEVATION = .000
 RUDDER = .000 SPDRK = .000

RUN NO. 0/ 0 RN/L = 3.00 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-8.000	-8.020	-8.11000	-23920	.23059	.15070	.03050	.21620	-.14500	.07610
-8.000	-8.000	-8.10000	-26380	.26190	.14880	.09800	.10450	-.07050	.03687
-8.000	.000	-8.09000	-30080	.27494	.13360	.12250	-.00490	.00430	-.00086
-8.000	4.000	-8.10000	-29580	.26885	.14860	.09930	-.11970	.08290	-.03979
-8.000	8.160	-8.13000	-26170	.25532	.14460	.10000	-.23690	.16190	-.07926
	GRADIENT	-8.00000	-1.00140	.00086	-.00003	.00016	-.02775	.01899	-.00349

RUN NO. 0/ 0 RN/L = 3.00 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-8.030	-4.10000	-05840	.09698	.14870	.09760	.18920	-.12580	.07613
-4.000	-4.000	-4.11000	-10360	.12973	.14310	.09610	.09410	-.06360	.03789
-4.000	.040	-4.11000	-12390	.14276	.14400	.09640	-.00590	.00560	-.00148
-4.000	4.170	-4.11000	-11810	.13750	.14260	.09660	-.10710	.07400	-.04074
-4.000	8.110	-4.13000	-10060	.12087	.14210	.09930	-.21030	.14090	-.07897
	GRADIENT	-8.00000	-1.00152	.00094	-.00006	.00006	-.02460	.01682	-.00961

RUN NO. 0/ 0 RN/L = 3.00 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-4.020	-4.33000	.06910	.00157	.14170	.09620	.09240	-.06400	.04035
.000	.040	-4.33000	.05090	.01362	.14110	.09530	-.00270	.00210	.00000
.000	4.070	-4.40000	.03250	.01134	.14080	.09530	-.09720	.06770	-.04049
.000	8.140	-4.40000	.07170	-.00602	.13710	.09630	-.18770	.12430	-.07714
	GRADIENT	-8.00123	-.00205	.00121	-.00011	-.00011	-.02344	.01628	-.00999

RUN NO. 0/ 0 RN/L = 3.00 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.060	4.01000	.26910	-.14447	.13420	.08910	.14930	-.09740	.06983
4.000	-4.010	4.01000	.22380	-.11464	.13700	.09220	.07230	-.05000	.03436
4.000	.000	4.00000	.20910	-.10249	.13450	.08930	-.00240	.00160	-.00002
4.000	4.100	4.00000	.21330	-.10928	.13220	.09110	-.08170	.05640	-.03529
4.000	8.140	4.00000	.23340	-.12772	.13050	.08830	-.16260	.10640	-.07186
	GRADIENT	-8.00123	-.00130	.00065	-.00009	-.00014	-.01699	.01312	-.00871



DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 53

AMES 11-716 1A14A 01+112+512 125+AT11 (ORBITTER)

(RBI039) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ. FT. XMRP = .0000 IN.
 LREF = 38.7390 IN. YMRP = .0000 IN.
 BREF = 38.7390 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.154 ELEVON = .000
 RUDDER = .000 SPDBRK = .070

RUN NO. 0/0 RN/L = 3.00 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLW	CA	CAF	CY	CYN	CBL
8.000	-8.000	7.92000	.38820	-.23071	.12860	-.08290	.11980	-.07490	.03782
8.000	-3.990	7.93000	.35710	-.21032	.13090	-.08710	.06170	-.04200	.03052
8.000	.040	7.93000	.33900	-.19782	.13050	-.08610	-.00290	.00190	-.00125
8.000	4.120	7.93000	.34960	-.20743	.12350	-.08450	-.06830	.04600	-.03863
8.000	8.200	7.91000	.37080	-.22572	.12430	-.08060	-.12840	.08030	-.06034
GRADIENT		-.00000	-.00092	.00035	-.00091	-.00032	-.01603	.01085	-.00779

AMES 11-716 1A14A 01+112+512 125+AT11 (ORBITTER)

(RBI040) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ. FT. XMRP = .0000 IN.
 LREF = 38.7390 IN. YMRP = .0000 IN.
 BREF = 38.7390 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.398 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

RUN NO. 0/0 RN/L = 2.74 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLW	CA	CAF	CY	CYN	CBL
-8.000	-8.040	-7.92000	-.16700	.16833	.14930	.10680	.21060	-.14640	.07472
-8.000	-4.000	-7.91000	-.20890	.19931	.15820	.11130	.11000	-.07450	.03819
-8.000	.030	-7.90000	-.21970	.20643	.15310	.11170	-.00290	.00300	-.00045
-8.000	4.100	-7.91000	-.22060	.20693	.15390	.11200	-.11820	.06020	-.03889
-8.000	8.190	-8.00000	-.21100	.19658	.14360	.10700	-.23440	.19810	-.07889
GRADIENT		-.00000	-.00144	.00091	-.00009	.00009	-.02793	.01910	-.00932

RUN NO. 0/0 RN/L = 2.74 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLW	CA	CAF	CY	CYN	CBL
-4.000	-8.050	-4.01000	-.01840	.05488	.14330	.10200	.19680	-.12950	.07219
-4.000	-4.020	-4.01000	-.05820	.08221	.14960	.10770	.09360	-.08340	.03812
-4.000	.330	-3.93000	-.06460	.08758	.14950	.10710	-.00240	.00270	-.00012
-4.000	4.100	-3.94000	-.07010	.09086	.14970	.10740	-.10030	.08760	-.03809
-4.000	8.150	-3.93000	-.05830	.07792	.14110	.10360	-.20590	.13610	-.07224
GRADIENT		.00861	-.00171	.00107	-.00036	-.00004	-.02415	.01613	-.00889

AMES 11-716 1A14A 08+712+512 N23+AT11 (CABINIER)

(R81045) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 50. FT. XMRP = .0000 IN.
 LREF = 38.7590 IN. YMRP = .0000 IN.
 BREF = 38.7590 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.398 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/ 0 RN/L = 2.72 GRADIENT INTERVAL = -1.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLW	CA	CAF	CV	CYN	CBL
.000	-2.590	.37000	.12660	-.05299	.13990	.09960	.18260	-.11800	.07213
.000	-4.020	-.38000	.06970	-.02728	.14340	.10560	.08900	-.05840	.03697
.000	.000	-.38000	.07940	-.02050	.14490	.10610	-.00110	.00150	.00032
.000	4.090	-.39000	.07320	-.01447	.14310	.10520	-.08820	.05890	-.03436
.000	8.140	-.39000	.07870	-.02523	.13820	.09790	-.18390	.11910	-.06976
GRADIENT		-.00123	-.00240	.00158	-.00026	-.00005	-.02185	.01446	-.00877

RUN NO. 0/ 0 RN/L = 2.73 GRADIENT INTERVAL = -1.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLW	CA	CAF	CV	CYN	CBL
4.000	-8.060	4.00000	.26920	-.17180	.13640	.09770	.15830	-.10190	.06719
4.000	-4.020	4.00000	.25180	-.14519	.14340	.10500	.07750	-.05140	.03400
4.000	.030	4.01000	.23100	-.13054	.14010	.10500	.00070	-.00000	.00048
4.000	4.090	4.04000	.23280	-.13329	.13800	.10260	-.07860	.05240	-.03329
4.000	8.160	4.06000	.24990	-.15005	.13270	.09470	-.15940	.10240	-.06614
GRADIENT		-.00493	-.00234	.00147	-.00067	-.00030	-.01325	.01280	-.00830

RUN NO. 0/ 0 RN/L = 2.74 GRADIENT INTERVAL = -1.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLW	CA	CAF	CV	CYN	CBL
8.000	-8.060	8.00000	.36370	-.23976	.13230	.09190	.13330	-.08190	.03740
8.000	-4.010	7.96000	.35610	-.21905	.13890	.09690	.06590	-.04310	.02981
8.000	.030	7.91000	.34040	-.20789	.13450	.10010	.00050	-.00060	.00033
8.000	8.210	8.00000	.36130	-.22968	.12680	.08700	-.13610	.06330	-.05822
GRADIENT		-.01238	-.00389	.00276	-.00109	.00030	-.01619	.01052	-.00730



DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 35

AMES 11-716 1A14A 01+Y12+312 N25

(ORBITER)

(R81041) (02 JAN 74)

REFERENCE DATA

REF = 2.4210 30.FT. ZMRP = .0000 IN.
 LREF = 38.7000 IN. ZMRP = .0000 IN.
 REF = 38.7000 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = .597 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RN/L = 3.98 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	CLM	CA	CAF	CY	CYN	CBL
-8.000	.020	.25704	.04780	.01230	-.00140	.00190	-.00128
-8.000	4.080	.25747	.04600	.00930	-.10330	.07010	-.03118
-8.000	8.150	.24724	.04200	.00700	-.21070	.13890	-.06208
GRADIENT	-.00246	.00011	-.00044	-.00074	-.02339	.01680	-.00737

RUN NO. 0/0 RN/L = 3.98 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	CLM	CA	CAF	CY	CYN	CBL
-8.000	-8.030	.12446	.04710	.00870	.18010	-.11870	.05718
-8.000	-4.020	.14874	.05090	.01450	.09050	-.05940	.02916
-8.000	.030	.15272	.05160	.01640	-.00230	.00260	-.00095
-8.000	4.070	.15043	.05010	.01280	-.09690	.05550	-.02961
-8.000	8.110	.14273	.04390	.00790	-.19270	.12880	-.05903
GRADIENT	.01236	.00021	-.00010	-.00021	-.023.6	.01544	-.00726

RUN NO. 0/0 RN/L = 3.98 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	CLM	CA	CAF	CY	CYN	CBL
-8.000	-8.040	.04763	.04390	.00630	.16310	-.10970	.05841
-8.000	-4.020	.07245	.04900	.01380	.02060	-.05330	.02770
-8.000	.040	.05906	.05020	.01680	-.00300	.00260	-.00117
-8.000	4.060	.07592	.04850	.01230	-.09.40	.06220	-.02979
-8.000	8.140	.06567	.04210	.00330	-.18000	.12130	-.05845
GRADIENT	-.00124	.00013	-.00036	-.00016	-.02.29	.01429	-.00712

RUN NO. 0/0 RN/L = 3.99 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	CLM	CA	CAF	CY	CYN	CBL
-8.000	-8.050	.10830	.03370	-.00180	.14840	-.09790	.05628
-8.000	-4.010	.07630	.03930	.00540	.06990	-.04630	.02684
-8.000	.060	.07790	.04280	.00930	-.00280	.00210	-.00102
-8.000	4.080	.06320	.03910	.00490	-.07080	.05360	-.02814
-8.000	9.150	.06670	.03240	-.00340	-.15780	.10790	-.03672
GRADIENT	-.00123	.00044	-.00032	-.00006	-.01038	.01235	-.00680

ORIGINAL PAGE IS
 OF POOR QUALITY

DATE 13 JAN 75

TABULATED SOURCE DATA - 1A1/4

(R01041) (02 JAN 74)

AMES 11-716 1A14A 01+112+912 N25 (ORBITER)

PARAMETRIC DATA

MACH = .597 ELEVON = .000
RUDDER = .000 SPOBRK = .000

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
LREF = 38.7090 IN. YMRP = .0000 IN.
BREF = 38.7090 IN. ZMRP = 9.9900 IN.
SCALE = .0300

RUN NO. 0/ 0 RN/L = 3.98 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	-8.000	7.99000	.22400	-.12755	.02110	-.01340	.12360	-.08260	.05440
0.000	-4.010	8.00000	.19720	-.10895	.02500	-.00570	.03940	-.03950	.02500
0.000	.010	8.00000	.20110	-.11251	.02710	-.00250	-.00150	.00110	-.00089
0.000	8.160	7.87000	.19130	-.10983	.02160	-.01490	-.13250	.09020	-.03440
GRADIENT		.00000	.00097	-.00089	.00052	.00085	-.01515	.01010	-.00665

(R01042) (02 JAN 74)

AMES 11-716 1A14A 01+112+912 N25 (ORBITER)

PARAMETRIC DATA

MACH = .750 ELEVON = .000
RUDDER = .000 SPOBRK = .000

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
LREF = 38.7090 IN. YMRP = .0000 IN.
BREF = 38.7090 IN. ZMRP = 9.9900 IN.
SCALE = .0300

RUN NO. 0/ 0 RN/L = 4.26 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-8.000	-8.000	-7.89000	-.28830	.23064	.05440	.01270	.20680	-.13490	.06227
-3.990	-7.78000	-7.78000	-.32360	.25497	.05530	.01610	.10700	-.07070	.03301
0.000	-7.78000	-7.78000	-.33090	.23966	.05680	.01830	-.00200	.00230	-.00102
0.000	4.090	-7.79000	-.34130	.26550	.05230	.01670	-.11290	.07610	-.03394
0.000	8.160	-7.97000	-.32160	.24796	.04750	.01310	-.22130	.14610	-.06511
GRADIENT		-.00124	-.00211	.00130	-.00037	.00007	-.02722	.01817	-.00829

RUN NO. 0/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-8.060	-4.02000	-.12680	.11736	.05370	.01280	.18680	-.12400	.05681
-4.000	-4.030	-4.03000	-.16800	.14665	.05600	.01750	.09820	-.06370	.03097
-4.000	.040	-4.04000	-.17130	.14776	.05680	.01930	-.00420	.00360	-.00128
-4.000	4.070	-4.04000	-.17840	.1515	.05400	.01690	-.10340	.07050	-.03209
-4.000	9.130	-4.04000	-.16890	.14131	.04890	.01260	-.20040	.13430	-.00092
GRADIENT		-.00124	-.00128	.00060	-.00025	-.00007	-.02452	.01657	-.00778



DATE 12 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 57

AMES 11-716 1A14A 01-712-512 N25

(ORBITER)

(R81042) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 30. FT. YMRP = .0020 IN.
 LREF = 30.7990 IN. YMRP = .0020 IN.
 BREF = 30.7990 IN. ZMRP = 9.9900 IN.
 SCALE = .0000

PARAMETRIC DATA

MACH = .750 ELEVON = .000
 RUDDER = .000 SPORK = .000

RUN NO. 0/0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.1160	-3.2000	-.00990	.03735	.04900	.00910	.17370	-.11610	.05903
.000	-4.010	-.34000	-.04320	.06093	.05320	.01530	.06490	-.01690	.02441
.000	.050	-.34000	-.04510	.06149	.05460	.01010	-.00490	.00400	-.00146
.000	4.090	-.35000	-.05820	.06962	.05200	.01470	-.00770	.06710	-.03171
.000	8.160	-.34000	-.04430	.05372	.04580	.00930	-.10750	.12670	-.06019
GRADIENT	-.00123	-.00185	.00107	-.00015	-.00007	-.00007	-.02254	.01531	-.00755

RUN NO. 0/0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-3.060	4.22000	.13130	-.05985	.03740	.00030	.15320	-.10280	.05964
4.000	-4.030	4.21000	.10110	-.03784	.04170	.00710	.07370	-.04950	.02912
4.000	.030	4.21000	.09960	-.03750	.04340	.01040	-.00300	.00220	-.00067
4.000	4.090	4.20000	.04340	-.02742	.01100	.00510	-.00240	.05650	-.02967
4.000	8.160	4.19000	.09130	-.03779	.03490	-.00050	-.16320	.11070	-.05872
GRADIENT	-.00123	-.00126	.00128	-.00009	-.00025	-.00025	-.01922	.01305	-.00724

RUN NO. 0/0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
8.000	-6.050	6.07000	.25040	-.14233	.02780	-.00750	.13110	-.08000	.05743
8.000	-3.090	6.06000	.22590	-.12682	.02860	-.00420	.06360	-.04280	.02801
8.000	.050	7.97000	.22280	-.12505	.03080	-.00040	-.00290	.00220	-.00105
8.000	4.130	7.96000	.21180	-.11826	.02960	-.00440	-.00700	.04960	-.02918
8.000	6.220	7.94000	.21420	-.12315	.02770	-.00840	-.14150	.09630	-.05752
GRADIENT	-.01476	-.00174	.00105	.00012	-.00007	-.00007	-.01670	.01136	-.00704

(881043) (02 JAN 74)

(0881071)

AMES 11-716 1A14A 01-0112-312 M25

REFERENCE DATA

XREF = 2.4210 50.FT. XMRP = .0000 IN.
 LREF = 38.7300 IN. YMRP = .0000 IN.
 BREF = 38.7300 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

MACH = .853 ELEVON = .000
 RUDDER = .000 SFOBRK = .000

PARAMETRIC DATA

RUN NO. 0/0 RN/L = 4.51 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-8.000	-8.000	-7.89000	-28560	.23493	.06870	.02320	.21570	-.14070	.08457
-8.000	-4.000	-7.78000	-31850	.25677	.06770	.02410	.11310	-.07550	.03509
-8.000	.000	-7.67000	-31710	.25447	.07340	.02630	.00150	.00170	-.00069
-8.000	4.000	-7.56000	-31330	.26483	.06520	.02380	.11930	.08070	-.03619
-8.000	8.100	-7.45000	-31360	.24760	.06470	.02250	.23140	.15310	-.06722
GRADIENT		-.00864	-.00183	.00100	-.00031	-.00004	-.02866	.01926	-.00879

RUN NO. 0/0 RN/L = 4.51 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-8.000	-3.86000	-10750	.10876	.06370	.02050	.19720	-.13070	.08179
-4.000	-4.000	-3.89000	-11620	.13476	.06370	.02320	.10250	-.06970	.03365
-4.000	.000	-3.64000	-15150	.13746	.06550	.02510	-.00280	.00240	-.00042
-4.000	4.000	-3.88000	-11660	.14709	.06350	.02320	.11100	.07660	-.03445
-4.000	8.100	-3.90000	-14830	.13105	.06180	.02010	.21100	.14160	-.06375
GRADIENT		.00121	-.00252	.00152	-.00027	-.00000	-.02633	.01804	-.00840

RUN NO. 0/0 RN/L = 4.48 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.000	-3.31000	.02110	.02014	.06020	.01770	.18280	-.12200	.06178
.000	-5.000	-3.30000	-.00450	.03719	.06000	.02020	.11920	-.08170	.04146
.000	.000	-3.40000	-.02630	.05321	.06320	.02460	-.00280	.00230	-.00032
.000	4.000	-3.50000	-.02970	.05329	.06120	.02180	-.09940	.06900	-.03255
.000	8.100	-3.40000	-.01680	.04012	.05780	.01740	-.19100	.12920	-.06089
GRADIENT		-.00247	-.00084	.00002	-.00049	-.00069	-.02385	.01647	-.00796

RUN NO. 0/0 RN/L = 4.48 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.000	4.13000	.15350	-.07112	.05030	.01130	.16290	-.10960	.06214
4.000	-4.000	4.05000	.12780	-.05378	.05240	.01640	.08100	-.05530	.03150
4.000	.000	4.05000	.12170	-.04941	.05420	.02000	-.00190	.00031	-.00000
4.000	4.100	4.14000	.11360	-.04591	.05190	.01510	-.08860	.06170	-.03117
4.000	8.100	4.15000	.11560	-.05173	.04910	.01090	-.17360	.11780	-.06150
GRADIENT		.01106	-.00172	.00096	-.00006	-.00016	-.02079	.01434	-.00768



DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 59

AWES 11-716 1A14A 01+T12+312 N25

(ORBITER)

(R81043) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 50 FT. XMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BREF = 38.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

RUN NO. 0/0 RN/L = 4.49 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	-8.070	0.04000	-1.1388	.04620	.01000	.14360	-.09610	.05736
0.000	-8.080	0.01000	-1.1390	.04600	.01590	.06880	-.04600	.02736
0.000	0.030	0.01000	-1.1333	.05140	.01840	-.00490	.00360	-.00066
0.000	4.130	0.00000	-1.1240	.04920	.01350	-.07820	.05370	-.02618
0.000	8.250	0.00000	-1.1083	.04640	.00900	-.15080	.10170	-.05552
GRADIENT		-.00123	.00172	-.00005	-.00030	-.01804	.01223	-.00681

PARAMETRIC DATA

MACH = .833 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

AWES 11-716 1A14A 01+T12+312 N25

(ORBITER)

(R81044) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 50 FT. XMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BREF = 38.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

RUN NO. 0/0 RN/L = 4.49 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	CN	CLM	CA	CAF	CY	CYN	CBL
-8.000	-8.050	-7.97000	.27150	.08250	.03370	.22160	-.14640	.06339
-8.000	-4.030	-7.96000	.25496	.08160	.03510	.11320	-.07700	.03323
-8.000	0.050	-7.96000	.25283	.08690	.03780	-.00150	.00140	-.00039
-8.000	4.100	-7.97000	.26315	.08080	.03620	-.12120	.08210	-.03378
-8.000	8.170	-8.00000	.24767	.07970	.03370	-.23810	.15990	-.06035
GRADIENT		-.00123	.00180	-.00010	.00014	-.02919	.01964	-.00877

PARAMETRIC DATA

MACH = .900 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RN/L = 4.49 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-8.080	-4.07000	.10210	.08030	.03260	.20340	-.13670	.06389
-4.000	-4.030	-3.97000	.12396	.07850	.03510	.10310	-.07180	.03372
-4.000	0.050	-3.88000	.12723	.08150	.03630	-.00410	.00330	-.00066
-4.000	4.080	-3.92000	.13330	.07750	.03430	-.11420	.07920	-.03477
-4.000	8.150	-3.93000	.12639	.07670	.03150	-.21740	.14770	-.06371
GRADIENT		-.00192	.00115	-.00012	-.00010	-.02704	.01862	-.00845

DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 80

AMES 11-716 1A14A 01+112+512 N25

(ORBITER)

(R81044) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 36.17. YMRP = .0000 IN.
 LREF = 38.7080 IN. YMRP = .0000 IN.
 BREF = 38.7590 IN. ZMRP = 9.9900 IN.
 SCALE = .0100

PARAMETRIC DATA

MACH = .900 ELEVON = .000
 RUDDER = .000 SFCBRK = .000

RUN NO. 0/ 0 RN/L = 4.50 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.080	.06000	.05630	-.09324	.07540	.02560	.18400	-.12600	.06279
.000	-4.030	-.32000	.02500	.01561	.07520	.03240	.10080	-.07010	.03371
.000	.050	-.32000	.01100	.02690	.07710	.03560	-.00050	.00050	.00037
.000	4.100	-.33000	.00900	.02571	.07560	.03310	-.10330	.07270	-.03286
.000	8.150	-.33000	.01180	.02120	.07480	.02310	-.19750	.13590	-.06327
	GRADIENT	-.00123	-.00197	.00124	.00005	.00009	-.02510	.01756	-.00819

RUN NO. 0/ 0 RN/L = 4.48 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.100	4.20000	.18460	-.09250	.06780	.02460	.16230	-.10970	.06089
4.000	-4.020	4.10000	.16770	-.08376	.06680	.02810	.08680	-.06070	.03180
4.000	.040	4.06000	.15950	-.07684	.06840	.03160	-.00230	.00160	-.00029
4.000	4.110	4.10000	.15630	-.07730	.06780	.02870	-.09430	.06670	-.03254
4.000	8.190	4.10000	.15070	-.07651	.06740	.02510	-.17540	.11950	-.06287
	GRADIENT	-.01106	-.00140	.00079	.00012	.00007	-.02228	.01567	-.00791

RUN NO. 0/ 0 RN/L = 4.48 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
8.000	-8.080	8.04000	.28360	-.16033	.06070	.02170	.14290	-.09270	.05686
8.000	-4.020	7.98000	.26510	-.14997	.06250	.02590	.07080	-.04680	.02927
8.000	.020	7.97000	.26180	-.14798	.06480	.02850	-.00330	.00210	-.00005
8.000	4.130	8.02000	.25390	-.14336	.06330	.02493	-.06030	.05410	-.03012
8.000	8.230	8.06000	.25150	-.14448	.06130	.02050	-.13290	.10040	-.05716
	GRADIENT	.00493	-.00138	.00081	.00010	-.00012	-.01854	.01238	-.00729



DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 61

AWES 11-716 1A14A 01+112+312 M25

(ORBITER)

(R81045)

(02 JAN 74)

REFERENCE DATA

XREF = 8.000 50.00 FT. XWRP = .0000 IN.
 YREF = 30.0000 IN. YWRP = .0000 IN.
 ZREF = 30.0000 IN. ZWRP = 9.9999 IN.
 SCALE = .0399

PARAMETRIC DATA

MACH = .949 ELEVON = .000
 RUDDER = .000 SFDPRK = .000

RUN NO. 0/0 RM/L = 4.46 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	CN	CLM	CA	CAF	CY	CYN	CBL
-6.000	-6.040	-7.87000	.25196	.10290	.04750	.22990	-.15470	-.07033
-8.000	-4.010	-7.77000	.27446	.10640	.05120	.12030	-.08180	-.03663
-8.000	.040	-7.76000	.29148	.10570	.05350	-.00250	.00250	-.00045
-8.000	4.110	-7.90000	.28380	.10500	.05000	-.12720	.08810	-.03753
-8.000	8.180	-7.93000	.27217	.10100	.04750	-.24670	.16880	-.07367
GRADIENT		-.01602	.00115	-.00007	-.00015	-.00048	.02092	-.00913

RUN NO. 0/3 RM/L = 4.48 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-6.080	-4.02000	.12922	.10120	.04710	.20730	-.14100	-.06970
-4.000	-4.030	-3.96000	.14120	.10290	.04970	.10460	-.07160	-.03500
-4.000	.010	-3.80000	.15140	.10260	.05340	-.00410	.00350	-.00036
-4.000	4.090	-3.94000	.15392	.10160	.05110	-.11590	.08090	-.03651
-4.000	8.170	-3.95000	.14945	.09860	.04740	-.22350	.15350	-.07148
GRADIENT		.00243	.00147	-.00016	.00017	-.02716	.01878	-.00881

RUN NO. 0/0 RM/L = 4.49 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-6.100	-3.90000	.01358	.09950	.04760	.19020	-.13080	-.07063
.000	-4.030	-3.92000	.02320	.09940	.05050	.09800	-.06830	-.03639
.000	.040	-3.93000	.02960	.10000	.05310	.00000	.00040	-.00040
.000	4.090	-3.90000	.03636	.09980	.05070	-.10030	.07070	-.03529
.000	8.180	-3.93000	.03604	.09740	.04610	-.20180	.14030	-.07048
GRADIENT		-.00123	.00161	.00005	.00003	-.02442	.01712	-.00883

RUN NO. 0/0 RM/L = 4.49 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-6.100	4.17000	-.09271	.09180	.04170	.16650	-.11610	.06657
4.000	-4.030	4.23000	-.11800	.09040	.04570	.07880	-.05510	.03194
4.000	.010	4.15000	-.09584	.09050	.04860	.00050	-.00040	.00063
4.000	4.110	4.14000	-.08777	.09080	.04430	-.08480	.05970	-.03229
4.000	8.180	4.12000	-.07466	.09120	.04230	-.17790	.12420	-.06788
GRADIENT		-.01194	.00128	.00005	-.00017	-.02010	.01410	-.00789

AWES 11-716 1A14A 01+712+312 N25 (ORBITER)

(RB1045) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BREF = 38.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = .949 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

RUN NO. 0/ 0 RN/L = 4.59 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	-0.000	0.15000	.30790	-.17135	.06310	.03800	.13940	-.09500	.05898
0.000	-4.000	0.15000	.29080	-.16695	.06080	.03890	.07010	-.04760	.02939
0.000	.040	0.14000	.29240	-.17064	.06200	.04160	-.00180	.00140	.00064
0.000	4.100	0.14000	.28140	-.16171	.06210	.03930	-.08080	.05580	-.03020
0.000	0.100	0.12000	.27320	-.15369	.06220	.03390	-.15230	.10330	-.05891
	GRADIENT	-.00122	-.00115	.00264	.00016	.00007	-.01842	.01264	-.00731

AWES 11-716 1A14A 01+712+312 N25 (ORBITER)

(RB1046) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BREF = 38.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = .975 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

RUN NO. 0/ 0 RN/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	-0.000	-7.97000	-.30510	.27109	.11620	.05501	.22790	-.13300	.07242
-0.000	-4.000	-7.96000	-.33790	.29341	.11940	.05900	.11690	-.07960	.03637
-0.000	.030	-7.89000	-.35480	.30375	.11720	.06180	-.00240	.00230	-.00032
-0.000	4.100	-7.95000	-.35450	.30422	.11980	.06040	-.12740	.00850	-.03848
-0.000	0.100	-7.98000	-.34300	.29100	.11510	.05730	-.24750	.16940	-.07547
	GRADIENT	.00122	-.00204	.00133	.00005	.00017	-.03009	.02070	-.00924

RUN NO. 0/ 0 RN/L = 4.23 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-0.000	-3.92000	-.13400	.14879	.11270	.05500	.20700	-.14090	.07122
-4.000	-4.010	-3.92000	-.16170	.16512	.11710	.05960	.10470	-.07160	.03192
-4.000	.020	-3.85000	-.17090	.16947	.11340	.06360	-.00370	.00330	-.00043
-4.000	4.100	-3.97000	-.17830	.17511	.11590	.06040	-.11560	.06090	-.03733
-4.000	0.160	-3.99000	-.17310	.16818	.11150	.05640	-.22440	.15420	-.07341
	GRADIENT	-.00621	-.00205	.00125	-.00015	.00010	-.02716	.01880	-.00903



DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 65

AMES 11-716 1A14A 01-712-312 NBS

(ORBITER)

(R81046) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 36-FT. YMRP = .0000 IN.
 LREF = 36.7090 IN. YMRP = .0000 IN.
 BREF = 36.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0000

RUN NO. 0/0 RIV/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.100	-3.0000	.03160	.02982	.11030	.05480	.18760	-.12810	.07262
.000	-4.030	-.32000	-.00220	.04808	.11150	.05730	.09400	-.06470	.03636
.000	.340	-.33000	-.01330	.05788	.11150	.06130	-.00190	.00160	-.00039
.000	4.080	-.33000	-.01610	.05940	.11120	.05730	-.10010	.07010	-.03663
.000	8.160	-.33000	-.00930	.05080	.10850	.05430	-.20270	.14010	-.07391
	GRADIENT	-.00123	-.00226	.00140	-.00004	.00000	-.02393	.01682	-.00900

MACH = .975 ELEVON = .000
 RUDDER = .000 SPDBRK = .000

PARAMETRIC DATA

RUN NO. 0/0 RIV/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.100	4.10000	.19360	-.08797	.10320	.04940	.16600	-.11480	.07074
4.000	-4.040	4.09000	.17860	-.08247	.10320	.05400	.07460	-.05070	.03293
4.000	.330	4.08000	.17010	-.07731	.10380	.05610	-.00040	.00000	-.00010
4.000	4.120	4.07000	.19020	-.06756	.10440	.05430	-.06330	.05780	-.03420
4.000	8.220	4.06000	.15200	-.06316	.10090	.04840	-.17630	.12280	-.07150
	GRADIENT	-.00245	-.00275	.00183	.00015	.00004	-.01935	.01330	-.00823

RUN NO. 0/0 RIV/L = 4.24 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
8.000	-8.080	8.04000	.31960	-.17694	.09380	.04390	.13710	-.09360	.05968
8.000	-4.020	7.92000	.29170	-.16468	.09500	.04980	.06580	-.04600	.02858
8.000	.380	7.91000	.29140	-.16611	.09760	.05310	-.00290	.00210	.00003
8.000	4.150	8.04000	.28020	-.15632	.09640	.04700	-.07360	.05200	-.02949
8.000	8.220	8.03000	.28100	-.15440	.09340	.04210	-.14810	.10260	-.06032
	GRADIENT	.01467	-.00141	.00100	.00017	-.00034	-.01706	.01199	-.00711

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AWES 11-716 1A14A 01+T12+312 N25

(ORBITER)

(R01047) (02 JAN 74)

REFERENCE DATA

SREF = 2.4510 38-FT. XMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 BREF = 30.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0000

MACH = 1.049 ELEVOM = .000
 RUDDER = .000 SPOBRK = .000

PARAMETRIC DATA

RUN NO. 0/0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYL	CBL
-8.000	-8.070	-7.96000	-3.0830	.27843	.12490	.06580	.22030	-.14330	.07365
-8.000	-4.010	-7.96000	-3.3430	.30138	.12780	.07030	.11240	-.07520	.03751
-8.000	.030	-7.96000	-3.6030	.31391	.12790	.07440	-.02210	.00220	-.00034
-8.000	4.120	-7.96000	-3.3720	.30971	.12750	.07370	-.12160	.08310	-.03678
-8.000	8.210	-7.99000	-3.3490	.30337	.12660	.06900	-.23950	.16020	-.07681
	GRADIENT	-.00000	-.00166	.00099	-.00004	.00005	-.02878	.01947	-.00938

RUN NO. 0/0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYL	CBL
-4.000	-8.120	-3.82000	-1.1720	.14110	.12360	.06610	.19620	-.12950	.07354
-4.000	-4.020	-3.83000	-1.1580	.16726	.12460	.06990	.09680	-.06450	.03628
-4.000	.030	-3.91000	-1.7800	.17983	.12240	.07160	-.00350	.00310	-.00060
-4.000	4.100	-3.91000	-1.1740	.17703	.12490	.06990	-.10890	.07480	-.03030
-4.000	8.180	-3.92000	-1.1680	.17071	.12440	.06890	-.21500	.14420	-.07609
	GRADIENT	-.00984	-.00188	.00120	.00004	-.00000	-.02533	.01716	-.00919

RUN NO. 0/0 RN/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYL	CBL
.000	-8.130	.02000	.05740	.01634	.12260	.06630	.17550	-.11800	.07309
.000	-4.060	.00000	.01360	.04394	.12260	.06980	.08810	-.03890	.03814
.000	.040	-.33000	-.01690	.06485	.12110	.07170	-.00370	.00280	-.00129
.000	4.100	.06000	-.00190	.03261	.12210	.06860	-.09340	.06390	-.03800
.000	8.180	.07000	.01290	.04174	.12220	.06670	-.18960	.12720	-.07643
	GRADIENT	.00721	-.00180	.00107	-.00006	-.00015	-.02224	.01505	-.00933

RUN NO. 0/0 RN/L = 4.25 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYL	CBL
4.000	-8.110	4.12000	.21330	-.09789	.11590	.06100	.15080	-.09900	.07182
4.000	-4.030	4.10000	.18060	-.07976	.11680	.06800	.06130	-.04370	.03347
4.000	.040	4.10000	.17200	-.07415	.11760	.06850	-.07440	.00090	-.00056
4.000	4.130	4.09000	.16670	-.07198	.11670	.06440	-.07720	.05140	-.03572
4.000	8.230	4.08000	.18730	-.07212	.11460	.05990	-.16340	.10890	-.07317
	GRADIENT	-.00123	-.00170	.00095	-.00001	-.00044	-.01771	.01163	-.00848



DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 65

AMES 11-716 1A14A 01+T12+S12 N25

(ORBITER)

(R81047) (02 JAN 74)

REFERENCE DATA

XREF = 2.4210 50.FT. XMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 BREF = 30.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.049 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RW/L = 4.22 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	-0.090	0.00000	.33300	-.18425	.10070	.03420	.12340	-.00020	.05985
0.000	-4.040	0.03000	.30600	-.17170	.11050	.06210	.05360	-.03610	.02755
0.000	.020	0.03000	.30400	-.17264	.11300	.06430	-.00070	.00050	-.00000
0.000	4.170	0.02000	.29600	-.16530	.11150	.05970	-.06290	.04170	-.02000
0.000	0.260	0.02000	.29370	-.16060	.10850	.05310	-.13740	.09220	-.06126
	GRADIENT	-.00122	-.00120	.00070	.00010	-.00030	-.01444	.00940	-.00687

AMES 11-716 1A14A 01+T12+S12 N25

(ORBITER)

(R81048) (02 JAN 74)

REFERENCE DATA

XREF = 2.4210 50.FT. XMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 BREF = 30.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.101 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RW/L = 3.90 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-0.000	-0.080	-7.93000	-.30060	.27559	.13400	.07480	.22340	-.14770	.07625
-0.000	.040	-7.92000	-.36480	.32123	.13690	.08310	-.00290	.00270	-.00075
-0.000	4.090	-7.93000	-.36230	.31072	.13920	.08070	-.12030	.08160	-.03965
-0.000	0.230	-7.95000	-.34370	.30225	.13620	.07760	-.24340	.16320	-.07982
	GRADIENT	-.00247	.00062	-.00062	.00037	-.00059	-.02899	.01940	-.00960

RUN NO. 0/0 RW/L = 3.90 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-0.000	-0.110	-3.94000	-.11050	.15523	.13340	.07540	.19360	-.12030	.07643
-4.000	-4.020	-3.96000	-.16710	.17534	.13460	.07900	.09400	-.06150	.03766
-4.000	.050	-3.89000	-.18470	.18752	.12990	.07850	-.00360	.00320	-.00080
-4.000	4.130	-3.89000	-.17680	.18049	.13520	.07900	-.10510	.07030	-.03932
-4.000	0.190	-3.89000	-.15460	.16221	.13450	.07820	-.21360	.14240	-.07916
	GRADIENT	.00859	-.00119	.00060	.00007	.00020	-.02443	.01617	-.00947

DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 66

AWES 11-716 1A14A 01+T12+S12 N25

(ORBITER)

(RBI-33) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 50.FT. XMAP = .0000 IN.
 LREF = 30.7090 IN. YMAP = .0000 IN.
 BREF = 30.7090 IN. ZMAP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.101 ELEVON = .000
 RUDDER = .000 SPDRK = .000

RUN NO. 0/0 RM/L = 3.98 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-0.140	-31000	.04060	.02876	.13120	.07430	.17350	-.11290	.07300
.000	-4.040	-33000	.00070	.03407	.13200	.07810	.08990	-.03280	.03740
.000	.030	-34000	-.01200	.06229	.12660	.07650	-.00360	.00250	-.00100
.000	4.110	-34000	-.01500	.06319	.13210	.07750	-.09700	.06470	-.04130
.000	0.180	-34000	-.00150	.03218	.13090	.07540	-.19260	.12710	-.07906
GRADIENT		-.00123	-.00193	.00112	.00001	-.00007	-.32183	.01442	-.00967

RUN NO. 0/0 RM/L = 3.98 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.290	4.17000	.21190	-.03505	.12420	.06890	.14600	-.00310	.07199
4.000	-4.050	4.16000	.18130	-.07785	.12650	.07490	.06470	-.04040	.03430
4.000	.030	4.17000	.17790	-.07680	.12630	.07690	.00060	-.00040	.00005
4.000	4.130	4.17000	.16890	-.07126	.12610	.07260	-.07200	.04620	-.03320
4.000	0.240	4.16000	.16640	-.06976	.12300	.06840	-.15780	.10170	-.07292
GRADIENT		.00122	-.00132	.00081	-.00005	-.00028	-.01671	.01059	-.00851

RUN NO. 0/0 RM/L = 3.97 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	-4.040	0.13000	.31690	-.17642	.12160	.07070	.05130	-.03110	.02904
0.000	.040	0.13000	.31780	-.18005	.12360	.07400	.00050	-.00050	.00023
0.000	4.160	0.12000	.30950	-.17292	.12120	.05820	-.05770	.03570	-.03059
0.000	0.270	0.11000	.30530	-.16881	.11620	.05950	-.12470	.07710	-.06048
GRADIENT		-.00122	-.00086	.00043	-.00005	-.00031	-.01329	.00815	-.00727

AMES 11-716 1A14A 01+112+312 N25

(ORBITER)

(RB1049) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 34-FT. XMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 BREF = 30.7090 IN. ZMRP = 9.9990 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 1.150 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RI/L = 3.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-8.000	-8.000	-7.86000	-30480	.27961	.10680	.08060	.21820	-.14330	.07641
-8.000	-4.000	-7.86000	-35630	.31639	.13480	.08290	.10750	-.07210	.03724
-8.000	.000	-7.86000	-37040	.32665	.13580	.08460	-.00300	.00310	-.00047
-8.000	4.000	-7.87000	-36690	.32283	.13630	.08330	-.11560	.07920	-.05433
-8.000	8.000	-7.89000	-34320	.30487	.13820	.08260	-.23670	.15940	-.07939
GRADIENT		-.00124	-.00131	.00279	.00021	.00000	-.02754	.01960	-.00933

RUN NO. 0/0 RI/L = 3.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-8.100	-3.93000	-10630	.13221	.13410	.08050	.19000	-.12420	.07634
-4.000	-4.120	-3.88000	-11880	.16878	.13010	.08030	.09530	-.06340	.03919
-4.000	.000	-3.89000	-18220	.18445	.12690	.08160	-.00320	.00310	-.00063
-4.000	4.080	-3.89000	-17570	.17938	.13090	.07960	-.10300	.07000	-.04008
-4.000	8.180	-3.89000	-14860	.15739	.13520	.08180	-.21130	.14030	-.08013
GRADIENT		-.00122	-.00208	.00133	.00009	-.00008	-.02410	.01627	-.00967

RUN NO. 0/0 RI/L = 3.74 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.100	-3.10000	.06770	.01013	.13070	.07910	.17300	-.11230	.07585
.000	-4.030	-3.30000	.01720	.03924	.12880	.08040	.08800	-.01980	.03931
.000	.000	-3.34000	-.00210	.05167	.12660	.08070	-.00050	.00070	.00077
.000	4.100	-3.40000	.00410	.04750	.12980	.07970	-.09440	.06370	-.03926
.000	8.170	-3.40000	.01610	.03681	.13180	.07990	-.18380	.12220	-.07715
GRADIENT		-.00123	-.00161	.00099	.00012	-.00009	-.02244	.01544	-.00969

RUN NO. 0/0 RI/L = 3.73 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.080	4.13000	.23130	-.11545	.12340	.07400	.14750	-.09430	.06997
4.000	-4.010	4.01000	.18990	-.08789	.12320	.07850	.07160	-.04820	.03428
4.000	.040	4.00000	.17690	-.07932	.12430	.07880	-.00220	.00170	-.00047
4.000	4.110	4.03000	.17690	-.08037	.12490	.07180	-.08050	.00310	-.03648
4.000	8.210	4.03000	.18690	-.09023	.12310	.07390	-.11990	.10280	-.07143
GRADIENT		.00247	-.00160	.00093	-.00004	-.00033	-.01873	.01272	-.00871

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AMES 11-716 1A144 01-T12-S12 M25

(ORBITER)

(R81049) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BREF = 38.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0000

PARAMETRIC DATA

MACH = 1.150 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RN/L = 3.72 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	-8.000	8.00000	.35650	-.20668	.11710	.06810	.11700	-.07070	.03820
0.000	-4.000	7.97000	.31850	-.18170	.12010	.07290	.05750	-.03600	.02914
0.000	.000	8.06000	.31310	-.17930	.12130	.07300	-.00300	.00250	-.00187
0.000	4.140	8.06000	.31560	-.18091	.11970	.07390	-.06290	.04190	-.01143
0.000	8.270	8.05000	.32120	-.18718	.11670	.06370	-.12480	.07710	-.03961
	GRADIENT	.01100	-.00035	.00010	-.00005	-.00025	-.01474	.00978	-.00741

AMES 11-716 1A144 01-T12-S12 M25

(ORBITER)

(R81050) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 SQ.FT. XMRP = .0000 IN.
 LREF = 38.7090 IN. YMRP = .0000 IN.
 BREF = 38.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0000

PARAMETRIC DATA

MACH = 1.247 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/0 RN/L = 2.76 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-8.000	-8.000	-8.01000	-.26420	.24846	.13780	.08340	.20530	-.13450	.07374
-8.000	-4.000	-8.01000	-.30060	.26977	.13590	.08630	.10790	-.07200	.03935
-8.000	.000	-8.00000	-.32000	.28321	.13720	.08970	-.00160	.00190	-.00011
-8.000	4.100	-8.01000	-.31940	.28279	.13520	.08750	-.11330	.07620	-.03964
-8.000	8.160	-8.03000	-.31010	.27582	.13880	.08920	-.22180	.14720	-.07644
	GRADIENT	-.00000	-.00232	.00160	-.00009	.00015	-.02731	.01800	-.00978

RUN NO. 0/0 RN/L = 2.75 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-8.000	-8.000	-3.93000	-.08520	.11205	.13350	.08380	.17950	-.11530	.07153
-4.000	-4.000	-3.93000	-.12400	.13568	.13050	.08450	.06930	-.05710	.01625
-4.000	.000	-3.94000	-.14040	.14746	.13080	.08650	-.00230	.00210	-.00039
-4.000	4.000	-3.94000	-.13540	.14264	.13190	.08520	-.09760	.06420	-.03719
-4.000	8.110	-3.95000	-.13230	.14134	.13540	.08370	-.19390	.12590	-.07334
	GRADIENT	-.00123	-.00141	.00086	.00017	.00003	-.02304	.01496	-.00909



DATE 10 JAN 75

TABULATED SOURCE DATA - 1A14A

PAGE 00

AMES 11-716 1A14A 01+112+512 N25

(ORBITER)

(RBL050) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 30. FT. YMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 BREF = 30.7090 IN. ZMRP = 0.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

MACH = 2.47 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

RUN NO. 0/ 0 QN/L = 2.75 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-0.060	.07030	-.00106	.13150	.08190	.16100	.06905	-.10240	
.000	-4.020	.03630	.01747	.12970	.06470	.07620	.03377	-.04770	
.000	.040	-.36000	.01060	.12830	.08330	-.00270	-.00070	.00210	
.000	4.080	-.36000	.01980	.12712	.08460	-.06530	-.03551	.03420	
.000	0.120	-.36000	.02420	.13230	.08310	-.17550	.11300	-.07149	
	GRADIENT	-.00124	-.00204	.00119	-.00001	-.01994	.01250	-.00855	

RUN NO. 0/ 0 QN/L = 2.75 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-0.080	4.01000	.23680	-.12449	.12790	.07950	.14150	-.08800	-.06512
4.000	-4.030	4.01000	.20670	-.10574	.12770	.08390	.06330	-.03040	.03104
4.000	.040	4.05000	.19800	-.10050	.12680	.08420	-.00380	.00040	-.00031
4.000	4.090	4.05000	.19690	-.10114	.12810	.08210	-.06930	.04320	-.03108
4.000	0.170	4.08000	.20050	-.10490	.12670	.07910	-.14920	.09300	-.06581
	GRADIENT	.00493	-.00121	.00037	.00005	-.00022	-.01633	.01005	-.00775

RUN NO. 0/ 0 QN/L = 2.74 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	-0.030	0.06000	.34920	-.20469	.12170	.07320	.11360	-.06710	-.05302
0.000	-3.980	0.00000	.33050	-.19392	.12430	.09030	.03270	-.03130	.02710
0.000	.040	7.91000	.32060	-.18865	.12030	.08020	-.00070	.00030	-.00038
0.000	4.130	0.00000	.32390	-.19048	.12990	.07830	-.05590	.03320	-.02753
0.000	0.220	7.96000	.32470	-.19362	.12080	.07220	-.12220	.07490	-.05574
	GRADIENT	.00006	-.00081	.00042	-.00017	-.00027	-.01339	.00795	-.00674

REFERENCE DATA
 SREF = 2.4210 50.FT. YMRP = .0000 IN. WACH = 1.396 ELEVON = .000
 LREF = 38.7390 IN. YMRP = .0000 IN. RUDDER = .000 50098K = .000
 BREF = 38.7390 IN. YMRP = 9.9900 IN.
 SCALE = .0300

PARAMETRIC DATA

RUN NO. 0/0 RN/L = 3.00 GRADIENT INTERVAL = -3.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-8.000	-8.000	-7.89000	-2.3230	.22089	.14100	.09290	.21800	-.17620	.07447
-8.000	-4.010	-7.88000	-.2110	.25170	.14330	.09710	.10950	-.07400	.03606
-8.000	.020	-7.87000	-.21100	.26274	.14330	.09940	-.00040	.00110	.00020
-8.000	4.110	-7.97000	-.28790	.23961	.14610	.09790	-.11600	.07990	-.03654
-8.000	8.180	-7.99000	-.27290	.24659	.14140	.09420	-.23180	.15650	-.07632
GRADIENT		-.01112	-.00159	.00097	.00010	.00010	-.02777	.01895	-.00943

RUN NO. 0/0 RN/L = 2.98 GRADIENT INTERVAL = -3.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
-4.000	-8.060	-3.96000	-.08230	.10549	.13400	.08000	.19520	-.12790	.07048
-4.000	-4.030	-3.99000	-.12360	.13402	.13880	.09290	.09330	-.06280	.03499
-4.000	.040	-3.85000	-.13710	.14179	.13520	.09390	-.00200	.00230	-.00032
-4.000	4.090	-3.97000	-.13690	.14197	.13860	.09200	-.09880	.06720	-.03476
-4.000	8.150	-4.00000	-.12820	.13401	.13450	.08800	-.20540	.13560	-.07111
GRADIENT		.00249	-.00164	.00098	-.00003	-.00011	-.02403	.01601	-.00859

RUN NO. 0/0 RN/L = 2.98 GRADIENT INTERVAL = -3.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
.000	-8.100	-3.70000	.06370	-.00592	.13050	.08340	.17820	-.11430	.06959
.000	-4.010	-3.90000	.02410	.02234	.13940	.09010	.08840	-.03600	.03440
.000	.030	-3.99000	.01410	.02727	.13240	.09130	-.00050	.00110	.00017
.000	4.090	-4.00000	.00710	.03307	.13590	.09120	-.00850	.00880	-.03304
.000	8.140	-4.00000	.01500	.02473	.13070	.08480	-.18000	.11860	-.06013
GRADIENT		-.00124	-.00210	.00132	.00006	.00014	-.02159	.01417	-.00033

RUN NO. 0/0 RN/L = 2.99 GRADIENT INTERVAL = -3.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
4.000	-8.070	4.11000	.23700	-.13212	.12700	.08150	.15280	-.09720	.06483
4.000	-3.980	4.10000	.19740	-.10462	.13400	.08950	.07260	-.04710	.03154
4.000	.060	4.10000	.18760	-.09876	.13190	.09030	-.00050	.00060	-.00023
4.000	4.130	4.10000	.18360	-.09620	.13330	.08840	-.07560	.04970	-.03156
4.000	8.180	4.09000	.19520	-.10803	.17660	.08120	-.15320	.09860	-.06380
GRADIENT		-.00000	-.00170	.00104	-.00009	-.00014	-.01830	.01194	-.00778



DATE 10 JAN 75

TABULATED SOURCE DATA - TAI14A

PAGE 71

AMES 11-716 TAI14A OR+T12+S12 N25

(ORBITER)

(881051) (02 JAN 74)

REFERENCE DATA

SREF = 2.4210 50-FT. XMRP = .0000 IN.
 LREF = 30.7090 IN. YMRP = .0000 IN.
 BREF = 30.7090 IN. ZMRP = 9.9900 IN.
 SCALE = .0300

MACH = 1.396 ELEVON = .000
 RUDDER = .000 SPOBRK = .000

PARAMETRIC DATA

RUN NO. 0/ 0 RM/L = 2.56 GRADIENT INTERVAL = -5.00/ 5.00

ALPHA	BETA	ALPHA	CN	CLM	CA	CAF	CY	CYN	CBL
0.000	-0.050	0.01000	.34160	-.20635	.12350	.07780	.12780	-.07720	.05588
0.000	-4.010	0.01000	.31480	-.18759	.13180	.06830	.06160	-.03910	.02770
0.000	.030	0.02000	.30820	-.18442	.12780	.06740	.00000	.00000	-.00010
0.000	4.150	0.01000	.31240	-.18729	.13060	.06600	-.06460	.04120	-.02847
0.000	8.280	7.99000	.31210	-.19187	.12180	.07480	-.13120	.06070	-.05626
GRADIENT		-.00001	-.00029	.00003	-.00014	-.00028	-.01347	.00984	-.00688

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